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REPORTS

OF THE

BUREAU OF STATISTICS

OF THE

DEPARTMENT OF AGRICULTURE,

new series
(Nos. 70 to 80),

1890,

BY

J. R. DODGE, M. A.,
STATISTICIAN.

V. 25

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1891.

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DEPARTMENT OF AGRICULTURE.

REPORT OF THE STATISTICIAN.

New Series. Report No. 70.

REPORT

UPON THE

NUMBERS AND VALUES OF FARM ANIMALS,

AND ON

FREIGHT RATES OF TRANSPORTATION COMPANIES.

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

January and February, 1890.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1890

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JANUARY AND FEBRUARY REPORTS.

DEPARTMENT OF AGRICULTURE,
February, 15, 1890.

SIR: I present herewith for publication results of the annual returns of increase or decrease of farm animals, and their value, in each of the States and Territories.

The returns of prices demand attention, the records showing the lowest valuation of animals on the farm which have been noted since the organization of the statistical service. All prices, except those of sheep, are lower than those of last year.

The February cotton returns show the estimated proportion of the total crop which had left plantations on the first day of the month, with the average date of close of picking, quality of the crop, proportion and price of seed sold to oilmills, extent of insect depredations, and other information concerning the crop.

The usual statement of freight rates of transportation companies, as required by Congress, is appended.

Respectfully,

J. R. DODGE,
Statistician.

Hon. J. M. RUSK,
Secretary.

REPORT ON FARM ANIMALS.

NUMBERS.

For several years there has been a deep interest in horse-breeding, which has been noticed in previous reports, resulting in increase of numbers and improvement in average quality. The French and English breeds retain their popularity, and are making their impress upon the horse stocks of the country, increasing their intrinsic value and availability for service as roadsters, stage and draught, and farm horses.

Numbers are still increasing. It is probable that a halt may be called in the rate of increase henceforth. Prices, for the first time in

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several years, have declined, indicating a full supply for the current demand. The raid of Texas ponies has been somewhat remarkable. They have invaded every section of the country. Their low price and hardiness and endurance have placed them in active competition with the mule on Southern plantations and made them especially popular with the freedmen tenants. They have also scattered through the Northern and Eastern States, where they are found in considerable numbers, and they are plentiful in the Rocky Mountain regions. The increase of the year has been about 4 per cent., and the present numbers of horses on farms and ranches are estimated at 14,213,837.

Some correspondents report excess of numbers from inability to sell at remunerative prices. This is the case in those regions where horses are bred for the markets of other States.

There are many incidental facts of much interest which appear in the returns illustrating local changes and peculiarities in the industry. No part of the country is exempt from indications of progress. In *Berkshire* County, Massachusetts, a beautiful farm has been stocked with $200,000 worth of the most valuable young horses.

The *Caledonia* reporter, in Vermont, notices the tendency to keep up the reputation of the Morgan horses, by breeding from the best to be found of that blood.

In *Genesee*, New York, it is noted that farmers are becoming more interested in raising thoroughbred stock, even for farm use.

The sale of western horses is mentioned in *Monroe*, Pennsylvania, at high prices, $175 being common for draft horses. Sound and desirable young horses bring $200 in Delaware County. Some counties in this State indicate a sluggish market from increase of numbers.

In certain counties in Virginia, notably *Dinwiddie*, horses are in unusual demand on account of contracts for shipping wood and bark.

In *Pitt*, North Carolina, the exodus of the negro is credited with causing a glut in the horse market, and low prices at forced sales. Very few are brought into the county, which is usually a fine market for horse-raisers of other sections.

South Carolina has long been a market for horses grown in Tennessee, Texas, and other States. Sales are less frequent now, as home-grown colts are more frequently seen, in response to an effort to raise horses for farm work.

Georgia correspondents generally note a disposition to raise horses, which have been, and are now to a considerable extent, brought from Tennessee and Kentucky, and large numbers of ponies from Texas. Some of them refer especially to the introduction of better blood.

Where the supply has so long come almost entirely beyond State lines, as in Alabama, a county like *Chilton*, that is self-supplying, is an exception.

A fear is entertained in Mississippi, as elsewhere, that the influx of mustang horses will prove a disadvantage. It is recognized, while they

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have inherited wonderful staying as well as going qualities, and are active and efficient for their size, that still they are scrubs.

There is some improvement in Texas, though the larger part are of Spanish origin and low value.

In *Fayette*, Tennessee, a tendency towards raising a better class of harness and saddle horses is noted. Animals of improved breed are brought into various parts of Tennessee from Kentucky. More attention to shelter and good pasturage is indicated.

Horses are still regarded as paying better than cattle in West Virginia. The increase of three years past, and present low prices, have left the markets in a condition of present glut.

Relatively high prices of colts in some parts of Kentucky is attributed to improvement in breed, and especial interest in this class of stock. In *Shelby* farmers are giving their attention mainly to raising trotters and race horses. The competition of Texas ponies, strange to say, has affected prices of Kentucky horses in some districts. Good roadsters and large draft horses are in active demand and sell readily at $200 to $250, while inferior stock is in light demand at low valuation.

In Michigan the price of the best horses keeps up well. In some sections the standard has been raised materially, and fine horses are found in such districts.

In Indiana, notably in *Sullivan* County, State authority has intervened and killed horses afflicted with glanders, assumed to have been brought in by Texan ponies.

More colts have been raised the past year in *Shelby*, Illinois, than ever before and of better grade, but they are said to be cheaper than they have been for thirty years. There is a vast difference, however, between the lower qualities and the best grades of popular breeds. *McHenry* is a county that commands large revenue from horse purchasers coming from all directions. *McLean* has a large number of Normans, which are sold readily at high values.

The business of horse raising is increasing in all the districts west of the Mississippi, even to the Pacific coast, and there is demand for the best specimens of all the popular breeds. While prices of inferior animals are low, and average prices relatively low, the grades of the Percherons, Normans, Clydesdales, Cleveland Bays, and English Shires command high prices still. Fine teams of heavy draught horses are sold at $400, $500, and even $700 per pair. It will still pay to grow the best.

The number of mules is estimated at 2,331,027. The number reported a year ago was 2,257,574. The largest increase is west of the Mississippi. There are few north of latitude 40°, though some farmers in the northern belt regard them as cheaper than horses for farm work. In some of the Southern States, Texas mules have largely taken the place of oxen. For plantation work mules have always been in strong competition with horses. In many districts they have been partially

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displaced by Texan ponies. Missouri is still the great mule-raising district.

The number of milch cows is necessarily increasing, somewhat unequally, as attention is locally directed to dairying. The dairy is a prominent resource of Eastern farmers, not only for milk, but for butter, notwithstanding Western competition. Creameries are still increasing in the New England States, as farmers keep the skim-milk for feeding, and thus retain the fertility of their lands. Virginia and North Carolina are engaged in dairying operations considerably, making a demand for cows. Wisconsin and Minnesota are rapidly increasing numbers of milch cows, and introducing or breeding Jerseys and other milk breeds. The estimated number of milch cows on farms is estimated at 15,952,883.

The winter of 1888–'89 was favorable for range cattle, and numbers are increasing. The aggregate of present local estimates is 36,849,024 on farms and ranches of the United States. So large a proportion are now raised in the arid belt, where the local official or assessors' returns are so unequally incomplete, where taken at all, that there is no available basis for such estimate. Several Territories have no collection of such statistics, and in several of the governors' annual reports of 1889 there is no attempt to estimate the number of farm animals. In the older States the assessors' returns range from one-tenth to nine-tenths in completeness, according to varying provisions of law and more widely varying diligence and thoroughness in making returns. Many of the States make no returns of young animals, and there are many exemptions which, aside from the wretched incompleteness of returns in a large proportion of the States, render them misleading and unreliable.

The winter losses on the range constitute another element of uncertainty. They are light in some winters, and in others very heavy, and only partially known to the ranchmen themselves, except as approximately determined at the summer round-up. The difference between a loss of 5 per cent. and 25 is a demoralizing element in stock estimates, as well as in stock profits.

The apparent numbers, as estimated, indicate an increase in ten years of 40 per cent. in cattle other than milch cows, and 33 per cent. in all cattle. They come to maturity somewhat earlier, and it is found that beef can not be made at a profit without steady flesh-making, summer and winter. This causes some increase in the amount of beef produced.

The numbers of sheep declined annually under the operation of the tariff reduction of 1883, from 50,626,626 as estimated in 1884 to 42,599,079 in 1889. The lowest prices were reached in 1886. In 1887 there was a slight increase in price, and the decline in numbers would have been arrested but for the continued threat of free admission of the wools of the world. The desirability of American wools and their diminished value naturally tended to increase the price, which stiffened

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slightly the market value of sheep, in the face of the uncertainty as to its future, which induced timid growers to reduce farther their flocks or go out of the business altogether. It is worthy of notice that our local estimates for the present year quite uniformly show an enlargement of numbers, and also an increase in price, while values of all other farm animals are declining. There is perhaps no industry that is so sensitive as wool-growing, responding so quickly to appreciation or depreciation of price. The reason evidently is that it is almost the only animal industry that is liable to foreign competition, and thus exposed to the hostilities and uncertainties of national legislation.

The increase in the number of swine is in proportion to advance in population. This is especially noticeable in the South, which had a large breadth of corn last year, and an increase in nitrogenous forage. There is also some increase in the West.

The numbers of each species of domestic animals on farms and ranches, not including those held in towns and cities, are thus estimated:

Stock.	1889.	1890.	Increase or decrease.
Horses	13, 663, 294	14, 213, 837	+ 550, 543
Mules	2, 257, 574	2, 331, 027	+ 73, 453
Milch cows	15, 298, 625	15, 952, 883	+ 654, 258
Oxen and other cattle	35, 032, 417	36, 849, 024	+1, 8 6, 607
Sheep	42, 599, 079	44, 336, 072	+1, 736, 993
Swine	50, 301, 592	51, 602, 780	+1, 301, 188

VALUES.

The present returns of our correspondents show a general continuation of the tendency toward lower values which has been noted for several years, sheep alone marking an exception. The decline in price has been sufficient to reduce seriously the aggregate value of all classes of stock from that reported last year.

The heaviest decline of the year has been in the case of horses, amounting to $3.05 per head, and the reported increase in numbers has not been sufficient to offset this loss. With the aggregate number of horses increased by more than 500,000 head their total value is less than that of last year by more than $3,500,000. The decline in the price of mules is less than one-half as much per head as that of horses, $1.24, and the increase in numbers more than make good this loss.

Milch cows show a decline of $1.80, and oxen and other cattle $1.84 per head, from the prices of January 1, 1889. In the two classes together there has been an increase in numbers amounting to 2,470,865, but their aggregate value is less than that of a year ago by $49,685,918. The magnitude of this shrinkage in our cattle value will be best appreciated by a comparison of the present returns with those of 1884, when the average price of both classes reached the highest figure shown during

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the past decade. In that year the aggregate value was $1,106,715,703, while the present return makes it but $913,777,270, a decrease of $192,938,433 during six years, despite the fact that within that period there has been an increase in numbers amounting to more than 10,000,000 head.

The present returns show a revival of interest in sheep husbandry, the decline in numbers which has steadily continued since 1884 having been checked and a gratifying increase in numbers over last year reported. This revival of interest was first manifest in prices in 1887, and has since been slowly checking the decline in numbers. The present returns show an increased valuation per head over that of last year, amounting to 14 cents, the aggregate value showing an increase of slightly over $10,000,000.

Swine show an increase in numbers during the year of more than one and a quarter million, but the price has declined during the same period from $5.79 to $4.72, and the total value has fallen off $47,888,857.

The following statement, giving the total value of the different classes of stock in 1889 and 1890, shows strikingly the heavy shrinkage in stock values which has taken place during the past year:

Stock.	1889.	1890.	Increase or decrease.
Horses	$982,194,827	$978,516,562	— 3,678,265
Mules	179,444,481	182,394,099	+ 2,949,618
Milch cows	366,226,376	353,152,133	— 13,074,243
Oxen and other cattle	597,236,812	560,625,137	— 36,611,675
Sheep	90,640,369	100,650,761	+ 10,019,392
Swine	291,307,193	243,418,336	— 47,888,857
Total	2,507,050,058	2,418,766,028	— 88,284,030

Interesting in connection with this showing of the aggregate values is a statement of the average price per head of each class of animals at the same date.

Stock.	1889.	1890.	Increase or decrease
Horses	71.89	68.84	— 3.05
Mules	79.49	78.25	— 1.24
Milch cows	23.94	22.14	— 1.80
Oxen and other cattle	17.05	15.21	— 1.84
Sheep	2.13	2.27	+ 0.14
Swine	5.79	4.72	— 1.07

PRICES DURING THE DECADE.

The annual statement of the aggregate values of the different classes of farm animals is the result of investigation by counties into the average farm price of stock of different ages, and from such returns, the relative proportions of the numbers of different ages in each State having been duly considered, the aggregate value for each class of stock is worked out. Horses, mules, and oxen and other cattle are divided into

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four groups, under one year, between one and two, two and three, and over three years of age; sheep and swine have two divisions, under and over one year, while milch cows are returned in one group. These divisions lessen the work of our correspondents and increase its accuracy. If they were required to furnish an estimate of the average price for all of a class, they would be compelled to make proper allowance for the proportions of the different ages, whereas it is comparatively easy to ascertain an approximately correct average selling price for those of a certain age. In the case of cattle this is especially true. They are commonly sold as yearlings, two year olds, etc., and while an easy matter to state the price of these different groups, it requires accurate knowledge of proportions, and a better statistical training than reporters usually possess, to correctly consolidate the separate prices into a value for all ages. The relative proportions of the various ages composing the aggregate numbers vary in different States, according to the form of agriculture practiced, but the tendency to change is carefully noted by the Department and necessary allowance made. These proportions have been fixed after thorough and extensive investigation under direction of the Statistician.

In States where horse-breeding is carried on actively for supplying markets in other States, there is naturally a large proportion of young stock, animals under two years old, while in States purchasing a large portion of their stock elsewhere the proportion of old and matured stock is greater. Thus Kentucky and Tennessee breed extensively for the Southern market, and in these States the proportion of the whole under two years of age is 34 per cent., while in Georgia and Alabama, where planters purchase their animals at a mature and working age, the proportion is only 20 per cent. This disproportion in the distribution of the different ages affects the average value of the stock of a State, reducing it where a large part are young, and increasing it where the proportion of serviceable animals is greater. A failure to recognize this element in the question of values must inevitably lead to error. Kentucky has long been justly celebrated for her famous horses, yet the average value of her stock is less than that of Georgia, because the Georgia horses are older and very largely drawn from the stock farms of Kentucky.

Similar causes produce a like result in the case of cattle, though the fluctuations in value are less marked. In some districts cattle are purchased when partially prepared for market, to receive the finishing touches before going to the butcher, and there the proportion of that particular age is large, while in the districts which furnish the stock the proportion is small on account of these shipments. In the case of sheep and swine but two classes are made, those under and those over one year, as these animals reach comparative maturity at an early age. In the States in which the production of mutton is a prominent branch of sheep husbandry the smallest proportion of young animals is found,

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and the value per head is greatest. Swine in the Eastern and Middle States are pushed to early maturity, and the proportion over one year old on hand at any given date is comparitively small, and made up largely of those reserved for breeding purposes.

The following statement, taken from the records of this division, shows the farm value of stock on the 1st day of January for each year of the past decade, as estimated by our correspondents upon the basis explained:

Years.	Horses.	Mules.	Cows.	Cattle.	Sheep.	Swine.
1881	$58.44	$69.79	$23.95	$17.31	$2.39	$4.70
1882	58.53	71.35	25.89	19.89	2.37	5.97
1883	70.59	79.49	30.21	21.81	2.53	6.75
1884	74.64	84.22	31.37	23.52	2.37	5.57
1885	73.70	82.42	29.70	23.25	2.14	5.02
1886	71.27	79.60	27.40	21.17	1.91	4.26
1887	72.15	78.91	26.08	19.79	2.01	4.48
1888	71.82	79.78	24.65	17.79	2.05	4.98
1889	71.89	79.49	23.94	17.05	2.13	5.79
1890	68.84	78.25	22.14	15.21	2.25	4.72

This statement shows that at the beginning of the period the price of horses was low, though the recovery from the depressed values of the latter part of the previous decade had already set in. The turning point came in 1879, but the annual increment was slow till 1883. Since that date the fluctuations have been comparatively slight, the improvement of breed from the gradual infusion of the blood of better strains, English and French breeds, having served to check the general decline in values noted in the case of all agricultural products. The present year shows the heaviest decline of the decade, $3 per head, but the period closes with the average value of this stock $10 per head greater than when it opened. The values of mules have been equally uniform, prices naturally bearing a regular proportion to those of horses. This is the most valuable of farm stock so far as selling price is concerned, the average usually exceeding that of horses by from $8 to $10. They are a hardier animal, live to a greater age, and are serviceable when horses of the same age are retired. The proportion of the whole number that are of working age is large, considerably larger than in the case of horses, and this fact serves to increase the average value per head.

The close of the decade shows the price of milch cows slightly lower than in 1881, though values have been maintained rather better than in the case of other cattle. The steady enlargement of the dairy industry, especially in the West and Northwest, with the continued introduction of Alderney, Jersey, Holstein, and other improved blood into the herds, has had a tendency to maintain values better than those of other cattle, though the decline noted for several years has continued, and the present is the lowest price in ten years. The reaction from the low prices during the period 1876–'79, when all values were

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settling to a gold basis, began in 1880 and continued till 1884, when the average reached $31.37, the highest since 1871. Since that date there has been a steady decline, amounting in six years to nearly 30 per cent., the average being now but $22.14. Prices of other cattle are the lowest ever reported, the consolidated average for the whole country being but $15.21. The highest price during the past decade was reached in 1884, and the decline in value between that date and the present return has amounted to more than 35 per cent. This shrinkage in values has occurred mainly in beef cattle, and correspondents declare that it is owing to the fact that middlemen and handlers, commission merchants and butchers, demand an exorbitant portion of the profits of meat production for their services, leaving the smallest of margins and even no margin of profit at all, for the actual producer of the product. Stock growers complain, and very justly, that while they are forced to accept prices for their animals that barely pay the cost of growing, if indeed there is not actual loss, the prices of meat to the consumer are little if any lower.

Sheep reached their lowest price in 1886 when the general average was only $1.91 per head, and since that time there has been a slight but regular improvement noted, which has continued during the past year, the present average being $2.25.

The price of swine fluctuates from year to year from causes which peculiarly affect this class of stock. They reach maturity at an early age, and very large numbers can be sent to the butcher whenever demand arises without permanently impairing the supply. This flexibility of supply prevents any regular order in the course of values, higher prices resulting at once in an increased supply and a decline of values causing a falling off in the attention paid to swine breeding. A comparison of prices at two different periods might prove misleading, because of the fact that between the two extremes there might be a wide range of fluctuations. In 1881 the average was $4.70 and the present return is but 2 cents higher, but in the intervening years prices have ranged from $4.26 to $6.75 per head.

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Table showing the actual average farm price of live stock of different ages in January, 1890.

States and Territories.	Horses.					Mules.				
	Number of horses compared with that of January, 1889.	Average price per head.				Number of mules compared with that of January, 1889.	Average price per head.			
		Under 1 year.	Between 1 and 2 years.	Between 2 and 3 years.	Over 3 years.		Under 1 year.	Between 1 and 2 years.	Between 2 and 3 years.	Over 3 years.
	P. cent.					P. cent.				
Maine	103	$38.45	$58.50	$82.00	$112.00	100	.....	.....	.....	.....
New Hampshire	103	34.88	53.38	77.50	104.30	.....	.....	.....	.....	.....
Vermont	97	32.73	49.63	72.50	100.42	.....	.....	.....	.....	.....
Massachusetts	96	33.60	60.80	87.20	113.00	.....	.....	.....	.....	.....
Rhode Island	101	40.67	69.67	100.00	115.33	.....	.....	.....	.....	.....
Connecticut	102	40.68	69.57	98.08	113.25	.....	.....	.....	.....	.....
New York	99	37.39	68.31	89.66	111.84	100	$32.31	$54.06	$80.85	$113.66
New Jersey	101	45.52	70.92	94.17	116.56	100	33.33	58.33	90.80	120.54
Pennsylvania	101	39.35	63.22	90.84	116.49	99	38.42	60.85	90.48	118.32
Delaware	100	35.00	50.00	83.00	107.00	100	38.50	62.00	82.50	116.00
Maryland	99	31.54	47.55	70.68	92.73	101	40.29	60.43	86.43	114.88
Virginia	105	29.23	45.14	67.05	87.03	100	34.39	54.13	80.43	101.79
North Carolina	102	30.46	46.06	68.12	86.04	106	33.89	53.23	76.51	97.18
South Carolina	105	32.50	54.78	75.89	96.00	103	36.78	57.22	87.78	105.67
Georgia	103	31.05	50.68	74.86	97.00	102	36.67	57.64	88.22	108.97
Florida	103	26.22	44.67	67.76	93.81	101	30.72	49.43	82.14	107.89
Alabama	101	29.11	45.20	65.49	84.93	102	33.24	48.78	77.70	99.72
Mississippi	101	22.08	37.88	59.97	76.23	.....	33.72	48.26	75.30	96.47
Louisiana	102	15.65	25.52	38.86	64.06	.....	24.67	38.53	68.11	95.50
Texas	102	14.54	20.09	28.58	43.99	102	23.49	34.22	48.09	67.82
Arkansas	100	23.21	34.58	48.45	70.44	101	29.97	44.75	62.83	84.11
Tennessee	99	36.37	54.50	71.79	88.26	.....	43.04	61.17	79.30	90.73
West Virginia	105	31.76	47.09	67.93	86.67	101	34.25	50.00	74.08	97.12
Kentucky	98	36.95	55.37	73.00	92.23	98	42.88	60.81	85.48	104.82
Ohio	.....	37.58	56.97	79.60	103.27	101	38.53	60.87	82.18	104.49
Michigan	103	37.92	58.31	80.28	104.08	100	38.67	62.00	83.40	105.00
Indiana	103	38.82	56.33	78.41	99.14	101	39.41	58.47	80.65	99.79
Illinois	103	35.36	51.82	73.86	95.08	98	38.54	57.84	79.99	97.21
Wisconsin	103	31.97	49.15	69.79	97.49	90	31.47	49.65	73.47	98.88
Minnesota	101	32.40	49.88	70.86	95.10	102	32.72	50.11	74.00	99.09
Iowa	104	31.32	49.61	69.48	92.35	90	32.90	50.29	72.14	95.33
Missouri	99	30.14	42.86	56.83	78.51	101	35.61	52.41	71.76	93.50
Kansas	.....	25.86	40.27	55.03	78.17	.....	30.83	44.84	69.53	89.57
Nebraska	.....	27.07	43.13	61.42	86.38	103	34.61	55.25	79.74	101.83
California	101	23.97	35.83	51.19	83.30	105	26.10	46.03	69.30	100.90
Oregon	103	21.34	30.74	41.75	63.35	103	25.77	38.73	55.82	82.08
Nevada	101	22.33	32.00	47.43	75.33	100	25.33	43.33	60.33	88.33
Colorado	106	21.57	33.29	48.21	68.33	100	31.43	45.71	64.38	92.50
Arizona	.....	10.00	18.00	29.00	42.00	103	.....	.....	.....	.....
Dakota	.....	29.64	47.54	68.10	88.92	99	34.05	51.55	77.27	98.56
Idaho	101	16.00	26.00	39.00	50.00	102	25.00	41.00	59.00	77.00
Montana	.....	20.00	27.25	39.00	50.25	.....	22.00	33.00	48.00	76.50
New Mexico	.....	9.25	13.50	25.00	40.50	95	12.67	27.00	37.00	58.33
Utah	105	16.00	25.60	37.80	52.20	100	16.00	26.00	38.67	58.50
Washington	.....	25.54	40.91	60.38	84.29	102	27.50	45.00	66.00	95.50
Wyoming	.....	21.67	30.00	36.77	50.50	90	26.00	42.00	60.00	80.00
General average	.....	30.17	45.82	64.21	87.35	.....	35.73	52.28	74.07	95.38

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Table showing the actual average farm price, etc.—Continued.

States and Territories.	Milch cows.		Oxen and other cattle.				
	Number of milch cows compared with that of January, 1889.	Average price per head.	Number of oxen and other cattle compared with that of January, 1889.	Under 1 year.	Between 1 and 2 years.	Between 2 and 3 years.	Over 3 years.
	Per cent.		*Per cent.*				
Maine	101	$25.00	85	$7.90	$13.15	$21.95	$34.40
New Hampshire	103	27.63	82	7.69	13.13	20.75	33.75
Vermont	101	23.75	91	6.71	11.50	19.84	33.09
Massachusetts	95	32.50	95	8.33	15.00	23.25	36.60
Rhode Island	103	31.00	90	8.00	15.00	22.00	34.33
Connecticut	103	31.08	92	9.00	15.08	22.67	35.92
New York	100	28.11	93	9.76	15.78	25.15	36.64
New Jersey	101	34.47	99	10.81	17.42	27.86	38.25
Pennsylvania	101	28.06	98	8.70	15.84	25.30	33.61
Delaware	103	27.50	99	9.50	15.00	21.00	30.50
Maryland	101	24.36	95	8.64	11.68	18.36	25.91
Virginia	105	19.28	100	6.13	10.38	16.89	22.65
North Carolina	.....	16.04	95	4.11	6.71	10.40	14.82
South Carolina	105	21.40	99	5.29	8.75	13.67	18.21
Georgia	104	17.24	99	4.79	7.29	11.09	15.60
Florida	101	16.40	97	4.44	6.65	8.04	13.07
Alabama	103	15.80	100	4.07	6.13	9.07	12.65
Mississippi	104	15.38	101	3.65	5.49	9.00	13.64
Louisiana	105	16.32	105	4.61	6.55	9.36	13.71
Texas	102	14.15	101	4.19	6.25	9.07	12.58
Arkansas	102	13.62	.....	3.80	5.38	8.35	12.59
Tennessee	103	16.98	102	5.00	8.88	13.24	18.82
West Virginia	102	21.53	101	8.00	14.48	22.76	32.04
Kentucky	101	21.69	99	7.80	12.46	19.00	28.29
Ohio	101	24.80	103	8.71	15.51	25.70	34.23
Michigan	103	26.24	105	7.68	14.60	22.20	33.81
Indiana	105	21.48	105	7.40	12.61	20.38	28.73
Illinois	.....	22.62	.....	8.09	13.49	20.23	27.99
Wisconsin	.....	24.29	.....	6.66	11.59	17.39	25.02
Minnesota	.....	20.79	.....	6.61	11.00	17.06	25.90
Iowa	103	19.79	.....	7.50	13.04	19.56	27.07
Missouri	105	18.53	.....	6.48	11.00	17.00	26.61
Kansas	.....	18.69	.....	6.99	11.75	18.50	25.38
Nebraska	105	20.15	.....	7.32	12.43	18.52	25.12
California	104	27.75	96	7.25	12.19	18.50	24.32
Oregon	.....	27.31	.....	7.00	11.97	17.97	24.13
Nevada	101	30.00	105	6.50	10.90	16.00	22.00
Colorado	101	30.40	102	7.09	11.42	17.36	23.60
Arizona	101	20.00	.....	.....	.....	.....	.....
Dakota	104	19.32	101	6.00	10.76	16.21	23.83
Idaho	100	30.00	90	.....	.....	.....	.....
Montana	105	29.75	102	8.94	13.63	19.75	24.13
New Mexico	103	21.25	100	5.25	8.00	12.88	17.25
Utah	102	22.10	101	6.10	11.50	16.60	21.00
Washington	.....	35.89	.....	9.43	15.93	25.00	35.50
Wyoming	.....	32.25	.....	8.00	12.75	16.00	28.00
General average	.....	22.14	.....	6.35	10.74	16.53	22.27

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Table showing the actual average farm price, etc.—Continued.

States.	Sheep.			Hogs.		
	Number of sheep compared with that of January, 1889.	Average price per head.		Number of hogs compared with that of January, 1889.	Average price per head.	
		Under 1 year.	Over 1 year.		Under 1 year.	Over 1 year.
	Per cent.			*Per cent.*		
Maine	99	$2.33	$3.15	108	$6.88	$14.54
New Hampshire	99	2.40	3.13	102	7.25	15.00
Vermont	99	2.48	3.14	101	6.70	14.00
Massachusetts	95	3.00	3.50	105	7.67	15.75
Rhode Island	99	3.00	3.75	101	7.50	15.00
Connecticut	99	3.10	3.85	60	7.83	14.50
New York	100	3.00	3.72	101	5.68	11.15
New Jersey	100	3.67	4.17	.....	6.10	11.97
Pennsylvania	101	2.75	3.64	.....	5.60	11.17
Delaware	100	2.60	3.45	.....	5.00	9.00
Maryland	101	2.80	3.70	.....	4.00	8.25
Virginia	102	2.15	2.76	.....	2.72	5.65
North Carolina	99	1.10	1.68	101	2.43	5.00
South Carolina	97	1.40	2.05	.....	2.79	6.00
Georgia	97	1.18	1.70	.....	2.41	4.90
Florida	.....	1.28	2.22	.....	1.62	3.85
Alabama	95	1.10	1.60	.....	2.30	4.40
Mississippi	95	1.15	1.65	.....	1.96	4.18
Louisiana	99	1.17	1.73	.....	2.00	4.50
Texas	102	1.13	1.70	105	2.53	4.90
Arkansas	.....	1.15	1.66	.....	1.50	3.90
Tennessee	97	1.50	2.09	.....	2.58	6.00
West Virginia	105	1.90	2.75	.....	3.08	7.00
Kentucky	100	2.20	3.00	105	3.20	7.00
Ohio	97	2.35	3.30	95	4.10	8.75
Michigan	105	2.34	3.40	.....	4.00	9.00
Indiana	90	2.50	3.35	.....	4.19	8.60
Illinois	89	2.40	3.35	103	4.34	8.90
Wisconsin	102	2.26	2.94	.....	4.40	8.55
Minnesota	97	1.90	2.70	101	4.18	8.24
Iowa	88	2.15	3.10	80	4.75	9.00
Missouri	.....	1.67	2.30	98	2.75	5.73
Kansas	.....	1.55	2.20	100	4.50	8.50
Nebraska	.....	1.60	2.35	102	4.38	8.52
California	102	1.50	2.30	100	3.45	7.50
Oregon	99	1.45	2.15	.....	2.90	6.50
Nevada	101	1.42	2.08	95	3.50	8.00
Colorado	.....	1.70	2.25	105	5.00	9.50
Arizona	105	1.00	1.75	.....	.....	.....
Dakota	.....	2.10	2.85	105	3.76	7.94
Idaho	.....	1.75	2.40	.....	.....	.....
Montana	.....	1.85	2.44	.....	5.00	11.00
New Mexico	88	.85	1.45	103	3.67	7.00
Utah	.....	1.68	2.29	95	5.00	11.00
Washington	.....	1.90	2.50	.....	3.86	8.36
Wyoming	.....	1.75	2.40	.....	5.00	11.00
General average	.....	1.77	2.51	.....	3.65	7.15

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Estimated number of animals on farms and ranches, total value of each kind, and average price January, 1890.

States and Territories.	Horses.			Mules.		
	Number.	Average price.	Value.	Number.	Average price.	Value.
Maine	99,657	$94.20	$9,388,168	.....	.....	.....
New Hampshire	52,402	88.97	4,662,079	.....	.....	.....
Vermont	81,353	79.64	6,718,276	.....	.....	.....
Massachusetts	63,838	104.61	6,678,327	.....	.....	.....
Rhode Island	10,258	108.24	1,110,325	.....	.....	.....
Connecticut	51,376	104.01	5,343,490	.....	.....	.....
New York	673,950	96.20	64,834,410	5,288	$101.66	$537,577
New Jersey	96,254	103.14	9,931,703	9,501	114.85	1,091,214
Pennsylvania	606,931	93.87	56,978,887	24,021	104.18	2,502,471
Delaware	23,000	91.46	2,103,580	4,184	110.48	462,269
Maryland	130,303	74.09	9,654,144	13,761	103.18	1,419,846
Virginia	259,317	70.08	18,172,031	36,083	86.37	3,116,584
North Carolina	154,229	73.58	11,347,464	96,295	81.84	7,881,118
South Carolina	70,303	87.91	6,180,143	79,269	96.69	7,664,256
Georgia	115,629	82.87	9,582,125	155,700	97.11	15,119,264
Florida	34,737	78.94	2,741,986	13,000	96.59	1,255,694
Alabama	131,805	72.26	9,740,488	143,258	86.95	12,456,913
Mississippi	139,468	65.93	9,198,458	196,436	86.59	17,008,569
Louisiana	124,650	51.84	6,461,356	94,785	85.23	8,078,679
Texas	1,350,344	32.97	44,527,176	213,146	53.23	11,343,579
Arkansas	187,153	56.71	10,612,675	129,806	69.63	9,042,968
Tennessee	308,206	70.75	21,452,283	229,246	71.22	16,327,002
West Virginia	146,647	65.73	9,638,581	6,867	74.91	514,411
Kentucky	390,577	72.90	28,474,801	155,858	75.15	11,712,918
Ohio	771,607	81.09	62,570,402	24,472	87.99	2,153,409
Michigan	477,407	84.22	40,206,792	6,095	98.02	597,427
Indiana	667,577	78.91	52,677,062	53,827	80.07	4,310,109
Illinois	1,123,973	74.11	83,301,912	109,947	78.84	8,668,039
Wisconsin	437,820	76.91	33,673,249	7,066	86.43	610,681
Minnesota	394,783	77.92	30,761,148	11,412	88.51	1,010,023
Iowa	1,095,300	72.70	79,626,009	42,316	78.96	3,341,065
Missouri	789,769	59.75	47,189,413	230,097	67.79	15,597,676
Kansas	726,318	63.49	46,117,430	94,714	75.98	7,195,907
Nebraska	542,036	69.71	37,787,194	45,792	88.24	4,040,759
California	372,084	63.60	23,664,984	42,803	78.21	3,347,496
Oregon	186,841	45.39	8,480,719	3,315	59.72	197,958
Nevada	51,523	55.30	2,849,279	2,369	67.36	159,585
Colorado	137,835	55.37	7,631,317	8,000	87.06	696,487
Arizona	32,670	46.50	1,519,155	2,936	70.00	205,520
Dakota	296,555	69.69	20,667,317	16,682	89.70	1,496,401
Idaho	137,805	42.00	5,790,330	1,704	58.00	98,832
Montana	216,495	41.53	8,989,946	2,450	55.23	135,316
New Mexico	52,350	29.66	1,552,854	10,203	48.65	499,282
Utah	139,399	34.71	4,838,522	4,055	44.10	178,842
Washington	118,633	63.54	7,537,475	1,268	85.22	108,069
Wyoming	141,570	39.25	5,556,097	2,880	72.88	209,884
Total	14,213,837	68.84	978,516,562	2,331,027	78.25	182,394,099

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Estimated number of animals on farms and ranches, total value of each kind, and average price January, 1890.

States and Territories.	Milch cows.			Oxen and other cattle.		
	Number.	Average price.	Value.	Number.	Average price.	Value.
Maine	175,949	$25.00	$4,398,725	157,386	$23.76	$3,739,624
New Hampshire	101,011	27.63	2,846,194	116,169	23.87	2,772,447
Vermont	234,642	23.75	5,572,748	169,053	22.68	3,834,563
Massachusetts	174,729	32.50	5,678,693	98,774	25.24	2,492,063
Rhode Island	24,041	31.00	745,271	12,194	27.25	332,257
Connecticut	134,897	31.08	4,192,599	102,143	27.20	2,778,071
New York	1,552,373	28.11	43,637,205	783,634	28.12	22,034,214
New Jersey	183,493	34.47	6,325,004	67,856	28.92	1,962,417
Pennsylvania	938,665	28.06	26,338,940	852,267	23.67	20,175,387
Delaware	29,543	27.50	812,433	26,866	24.78	665,614
Maryland	141,826	24.36	3,454,881	127,335	18.53	2,358,908
Virginia	272,036	19.28	5,244,854	419,523	15.66	6,569,393
North Carolina	272,155	16.04	4,365,366	398,414	10.47	4,170,321
South Carolina	156,575	21.40	3,350,705	210,396	13.15	2,767,604
Georgia	354,618	17.24	6,113,614	580,816	11.03	6,408,265
Florida	54,951	16.40	901,196	565,201	8.88	5,016,334
Alabama	311,805	15.80	4,926,519	454,042	8.94	4,060,682
Mississippi	309,234	15.38	4,756,019	441,862	9.34	4,126,898
Louisiana	177,613	16.32	2,898,044	295,731	9.76	2,884,911
Texas	843,342	14.15	11,933,289	7,167,853	8.83	63,294,293
Arkansas	329,121	13.62	4,482,628	587,212	8.64	5,072,101
Tennessee	377,740	16.98	6,414,025	484,578	11.68	5,660,645
West Virginia	179,939	21.52	3,872,287	286,528	18.00	5,156,882
Kentucky	317,093	21.69	6,877,747	523,728	17.69	9,263,546
Ohio	791,316	24.80	19,624,637	986,601	22.62	22,317,518
Michigan	454,926	26.24	11,937,258	547,716	21.38	11,710,832
Indiana	602,354	21.48	12,938,564	957,843	18.82	18,027,577
Illinois	1,072,473	22.62	24,259,339	1,713,906	18.71	32,076,531
Wisconsin	674,588	24.29	16,385,743	805,170	17.10	13,771,432
Minnesota	492,117	20.79	10,231,112	617,256	16.49	10,178,617
Iowa	1,331,888	19.79	26,358,064	2,577,161	18.03	46,455,399
Missouri	774,122	18.53	14,344,481	1,515,935	15.98	24,221,922
Kansas	750,815	18.69	14,032,732	1,829,422	16.71	30,563,967
Nebraska	420,009	20.15	8,464,390	1,306,372	17.03	22,242,548
California	268,628	27.75	7,454,427	697,805	16.80	11,719,707
Oregon	88,730	27.31	2,423,216	762,728	17.15	13,079,341
Nevada	18,399	30.00	551,970	373,527	14.53	5,426,224
Colorado	65,563	30.40	1,993,115	1,048,933	16.77	17,595,648
Arizona	16,790	20.00	335,800	604,170	15.00	9,062,550
Dakota	248,619	19.32	4,803,319	822,017	15.79	12,980,555
Idaho	31,750	30.00	952,500	374,247	16.50	6,175,076
Montana	33,015	29.75	982,196	981,786	17.24	16,925,993
New Mexico	20,375	21.25	432,969	1,383,357	11.25	15,560,603
Utah	52,910	22.10	1,169,311	426,170	14.08	5,999,615
Washington	83,641	35.89	3,001,875	369,381	23.51	8,684,635
Wyoming	10,404	32.25	335,529	1,217,860	14.98	18,240,947
Total	15,952,883	22.14	353,152,133	36,849,024	15.21	560,625,137

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Estimated number of animals on farms and ranches, total value of each kind, and average price January, 1890.

States and Territories.	Sheep.			Hogs.		
	Number.	Average price.	Value.	Number.	Average price.	Value.
Maine	542,248	$2.94	$1,596,920	79,043	$8.41	$664,913
New Hampshire	192,824	2.91	561,311	52,713	9.19	484,299
Vermont	362,112	2.96	1,070,114	77,898	8.60	669,682
Massachusetts	56,530	3.38	190,789	68,580	9.61	658,997
Rhode Island	20,231	3.56	72,073	13,796	9.00	124,163
Connecticut	46,759	3.68	171,956	55,598	9.16	509,503
New York	1,548,426	3.54	5,481,428	686,321	7.27	4,987,014
New Jersey	103,170	4.04	416,807	204,669	8.15	1,668,973
Pennsylvania	945,002	3.36	3,170,671	1,191,415	7.22	8,610,845
Delaware	22,294	3.22	71,798	51,185	5.80	296,873
Maryland	153,763	3.42	526,023	343,079	5.49	1,882,648
Virginia	444,563	2.59	1,151,063	1,009,659	3.60	3,633,764
North Carolina	414,819	1.51	624,718	1,291,893	3.38	4,367,760
South Carolina	102,031	1.86	189,268	670,652	3.95	2,646,125
Georgia	411,846	1.55	640,173	1,627,008	3.31	5,379,540
Florida	110,351	1.99	220,085	358,021	2.42	867,414
Alabama	286,238	1.44	413,613	1,530,001	3.03	4,643,552
Mississippi	240,148	1.50	360,223	1,443,813	2.71	3,919,062
Louisiana	115,082	1.56	179,114	706,947	3.00	2,120,842
Texas	4,752,640	1.52	7,239,096	2,321,246	3.48	8,073,292
Arkansas	260,484	1.49	401,990	1,663,275	2.46	4,091,657
Tennessee	511,118	1.90	968,722	2,242,215	3.54	7,942,059
West Virginia	508,654	2.46	1,251,798	486,226	4.10	1,993,139
Kentucky	805,978	2.73	2,198,708	2,255,102	4.19	9,444,360
Ohio	3,943,589	3.02	11,927,384	2,611,014	5.22	13,619,047
Michigan	2,240,841	3.06	6,858,766	978,755	5.30	5,187,400
Indiana	1,278,000	3.07	3,922,821	2,845,302	5.42	15,435,196
Illinois	688,387	3.04	2,090,287	5,433,250	5.62	30,517,479
Wisconsin	809,009	2.72	2,202,446	1,087,902	5.65	6,141,208
Minnesota	327,375	2.44	800,105	527,526	5.40	2,847,586
Iowa	475,816	2.80	1,330,382	5,805,000	5.94	34,481,700
Missouri	1,198,200	2.09	2,506,754	5,096,000	3.64	18,569,824
Kansas	438,313	1.99	870,271	2,734,195	5.58	15,256,810
Nebraska	239,400	2.10	503,538	2,309,779	5.62	12,985,579
California	4,035,120	2.08	8,409,190	647,000	4.91	3,175,476
Oregon	2,929,830	1.92	5,622,344	270,164	4.27	1,153,059
Nevada	700,986	1.89	1,323,882	19,232	5.30	101,931
Colorado	1,783,891	2.12	3,778,281	29,508	6.13	180,737
Arizona	698,404	1.65	1,152,367	20,140	4.50	90,630
Dakota	266,329	2.64	703,108	476,569	5.01	2,389,518
Idaho	487,357	2.20	1,072,185	31,000	5.00	155,000
Montana	1,989,845	2.25	4,467,799	29,254	6.80	198,926
New Mexico	3,092,736	1.25	3,872,100	22,593	5.00	113,010
Utah	2,055,900	2.08	4,281,617	47,641	6.86	326,819
Washington	673,060	2.30	1,545,346	143,411	5 48	785,892
Wyoming	1,017,373	2.21	2,249,921	5,200	6.62	34,424
Total	44,336,072	2.27	100,659,761	51,602,780	4.72	243,418,336

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STOCK NOTES OF STATE AGENTS.

NEW YORK

There has been an increase in the number of horses during the past year. Farmers are coming to think that horse-breeding is one of the best opportunities they now have for future income, and as a factor for maintaining the fertility of their lands. The introduction of stallions from Great Britain and France has tended to awaken an increased interest in this branch of animal industry. Thousands of mustangs have been brought into the State, which have been purchased because of their low price. On the whole, the value of horses has increased because of the extensive breeding of colts from larger and more valuable sires.

The stimulating effects of an increase of creameries with the increase of city demand for milk have added to the number of cows. In the grain growing and fruit districts there has been an increase in cows. Butter factories have been established in many cases where very few cows were kept before, and in sections where beef production formerly was a considerable business—attention has been turned to the dairy and the keeping of sheep. The beef interest of New York is thoroughly ruined so far as production for shipping purpose is concerned.

Light beef alone is now produced for home country use, except the turning off of the oxen which are to be disposed of. The unfavorable conditions of the market for oxen or for matured beef have reduced the value of oxen and of all cattle. Notwithstanding fodder of all kinds and grain are very cheap the price of all kinds of cattle is lower. The foundation of the value of cattle is the price of the dairy products and beef. The monopoly in the beef trade has cut down the value to the producer to a price below cost, which the consumer does not realize in the retail prices. This control by monopoly of both ends of the beef business is running the value of cattle down to a very low basis, notwithstanding the infusion of improved blood and the better breeding and care, which should enhance their value. The price of hides is also very low and the ultimate return on cattle is narrowed down to small limits. The price of butter the past year has been kept low by an unusual summer shipment, which has kept a surplus of this delicate product upon the market, thus injuring the quality as well as reducing the price. It takes some courage for New York farmers to look into the face of the future cattle and dairy interests; but nevertheless cows have slightly increased, while oxen and other cattle are reduced. Cows are brought into the State from Canada and the West.

There is an increase in the number and value of sheep. Many sheep have been purchased from Ohio, Michigan, and Canada, and have been distributed about the State in small flocks. The high price of lambs for mutton and a growing appreciation of mutton as a meat food has helped to bring this about. The need of more animals on the farms to make manure has also been a potent influence in making quite a boom in sheep. But for dogs many more sheep would be kept in small flocks. It seems to be a common characteristic of farmers to sell out when things are going down, forgetting that their own acts send them lower, and to buy in when the price is possibly rising. Last year there was a scramble to sell sheep, and this year to buy; whereas sheep should really be an established and permanent factor on every farm. It is a gratifying fact that they are once more becoming appreciated, both for mutton and wool—the first being the more important consideration to the New York farmer.

Hogs have scarcely ever been cheaper, and it has seemed as if many thought they must sell out. They doubtless would if they could have found buyers. The unprecedented weather has been favorable to the keeping of hogs in the farmers' hands, and while they have been thinned out in some localities, in others a wiser opinion has prevailed, and there has been an increase. On the whole there has been a small increase in the numbers, but the value is less than last year. More pigs than usual are being wintered owing to the cheapness of food.

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VIRGINIA.

Owing to the mildness of the winter, the general condition of stock is quite good. There has been very little necessity for feeding, except for market; but prices are so low that few farmers are offering their cattle far sale, unless forced to do so.

While the increase in the number of horses has not been great, there is a decided improvement in the breed for general use, and a tendency on the part of many to raise more colts than formerly. Though comparatively few mules are raised, farmers, particularly in the eastern part of the State, are turning their attention towards breeding them, finding that they are more profitable than horses, being better suited to the nature of the lands, not requiring as much care, and meeting a readier sale in the markets. Many sections report improvement in the grade of milch cows, and more attention is being gradually bestowed upon their breeding and care.

Sheep are improving in quality by the use of better breeds, and by better care, and the growth of popular opinion in their favor as a source of profit. The only serious drawback to their being largely raised is the loss arising from dogs. Hogs have diminished, cholera being the main cause, it having been very prevalent during the last year.

NORTH CAROLINA.

It has been years since there was such a mild winter. The grass is still green, and horses, cattle, and sheep are in better condition than usual. There is much fear for the safety of pork, owing to the warm rainy weather since the middle of December. It is claimed that the "stock law," which prevails in many counties, has reduced the number of sheep and hogs, which heretofore had the run of the woods, and it is also claimed that it has materially improved the quality of cattle and other stock. There is no disease reported among sheep. In a few sections hog cholera prevailed quite seriously. Some horses have died from distemper and glanders, but cattle have been unusually exempt from disease of any kind. The price of cattle is considerably lowered on account of the importation of Chicago beef.

GEORGIA.

There appears to be no abatement of the disposition of farmers to give more care and attention to horses, cattle, and hogs, to which notice was called one year ago. The increase in the number of horses is normal. The average value per head would show an increase of probably 5 per cent. were it not for the fact that large numbers of low-grade and low-priced Texas "ponies" are being introduced into the State. Mules have increased somewhat in value. There is an increased ability to buy on the part of farmers, but at the same time a more united and determined effort to beat down the prices of all kinds of supplies, including live stock, offered to them for sale.

There is a steady improvement in the breeding of milch cows, and, incidentally, "oxen and other cattle." This is largely due to the operation of the "no-fence law," which requires that all live stock be kept in inclosed pastures. This law is now in force in quite a large number of counties.

The interest in sheep and wool growing is still on the wane, and the number is slowly decreasing. It is remarkable that a larger percentage of losses by dogs occurs in those counties and sections where there are few sheep kept. In the largest sheep-growing counties *public sentiment*, based upon a common interest, is death to sheep-killing dogs.

MISSISSIPPI.

During the past year a large number of Texas horses have been imported, which has had the effect of reducing the price of horses and mules. Good hill mules sell from $125 to $140; swamp mules, from $140 to $150. Many counties have commenced

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raising horses and mules, and with very flattering and encouraging success. Some stock-raisers have shipped their horses and mules to other States and realized good prices. The raising of blooded cattle has proved to be a success. Our natural pastures and grasses, combined with our short winters and long, warm seasons, give a decided advantage in the raising of different kinds of stock.

LOUISIANA.

County correspondents report live stock of every description in excellent health and fine condition. This is attributed generally to the extreme mildness of the season up to the date of this report, also to the excellent grazing afforded by our natural grasses, which have scarcely been touched by frost.

While there seems to be only a moderate increase in the numbers of farm animals, there is a very material improvement in localities in the quality of stock. More attention has been paid in the selection of brood mares, and a better class of stallions and jacks has been introduced. The sheep industry has not increased as much as would be expected, this being largely due to the ravages of dogs. Many farmers have become disheartened, especially those who reside in the more thickly-settled portions of the State, and even the more remote sections have not been entirely exempt. There seems to be no remedy for this dog nuisance just now, hence a most promising industry is either destroyed, or at least seriously hampered on account of a few thousand worthless curs.

Very little disease is reported among hogs, which as a rule are exceptionally healthy and fat. The prevailing warm weather has interfered seriously with slaughtering. Swine are bred exclusively for home use and none are sold for export. Like other species of animals, there is a marked improvement, owing to the introduction of Berkshire, Poland, China, and Jersey Red males, the latter as a whole being preferred.

TEXAS.

Horses have increased in number about 5 per cent. during the past year. More attention is being paid to the quality raised than formerly, and the results are very satisfactory. Mules have also increased in number and quality. The number of milch cows is greater than one year ago, and by the introduction of better blood their quality is improving very rapidly. Oxen and other cattle have increased about the same as cows. The number of sheep as compared with one year ago is about the same. The class of live animals which shows the largest increase during the past year is hogs. The large corn crop and the heavy crop of mast stimulated this industry to a great extent, and in some counties the increase is 100 per cent.

ARKANSAS.

The past two years have been remarkably favorable for stock-growing, owing to seasonable rains most of the time and mild winters, inducing the growth of all grasses till quite late in the season. To these favorable conditions have been added good corn, oat, and hay crops, with heavy crops of mast in most localities. This season domestic animals have been fairly free from epidemic and contagious diseases, with the exception of hog cholera in certain localities in a few counties.

Considerable interest is being taken in the rearing of improved breeds of all kinds of live stock, and there is now not a county in the State but that possesses one or more at least of good herds of short-horns, Jerseys, or Holstein cattle, and improved breeds of hogs and sheep; while in several localities imported Percheron, Norman, and Clydesdale stallions and well-bred mares have been introduced.

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KENTUCKY.

In consequence of the mild winter and the fine grazing up to date, all live stock are in fine condition. Much complaint is still made of the ravages of hog cholera. Nearly all correspondents speak of the extraordinarily mild winter. The loss to farmers in their fall and winter killing of pork is very serious by reason of the joints being entirely spoiled or tainted. A very marked improvement in the breed of all kinds of stock is a noticeable feature in all the reports, especially from the southern and western portions of the State. In the blue-grass sections horses and hogs for years have borne a good price, and in consequence have received more attention. The price of cattle having been unsatisfactory, this important class of stock seems to be declining.

OHIO.

The fall and winter thus far have been very favorable for stock, and most of it is in good condition. Little disease prevails, except among hogs. In certain localities cholera has destroyed whole herds of them, materially reducing comparative numbers. There has been an unusual demand for sheep, saving thousands from slaughter, and giving a healthy tone to the industry. Complaint of unremunerative prices for cattle is given as a cause of depression in comparative numbers. The tendency is to the improvement of herds by the introduction of breeds of superior merit, with the view to greater weight and earlier maturity; and to this end increased attention is being given to care and mode of feeding. The reduction of numbers and increase of weight, seems the proper method of surmounting the present contingency of a depressed market.

MICHIGAN.

The winter has been favorable for feeding, and the cattle and sheep brought in for fattening are doing well on a comparatively small amount of feed.

INDIANA.

Owing to the open and warm winter, horses, cattle, and sheep are doing finely on the grass, there being but very little grain fed at this date. Hog cholera is prevailing in some localities, doing damage to young hogs.

ILLINOIS.

The rate of increase in horses is greater than in any other class of domestic animals, as compared with 1889. The animal importations are large. The line of breeding is principally of heavy horses, although trotters and fast drivers are receiving more than usual attention. The French draught, Percheron, Belgian, Clydesdale, English Shire, and Cleveland Bay are each represented by a State association of importers and breeders, organized to promote the interests of their respective breeds. The supply of marketable horses for service is larger than usual, feed being cheap, and the prices obtainable from 10 to 15 per cent. below that of last year; many are holding and hoping for an advance. Horses are reported healthy and in good condition, better than usual at this season of the year. The number of mules is steadily decreasing each year, the reduction being chiefly in the northern and central portions of the State, where more attention is given to the improved breeds of horses.

There has been a small increase in the number of milch cows, but prices are lower than last year. It is worthy of note that dairymen are selecting better cows when buying to replenish or increase their herds. There is an increase of 1 per cent. of oxen and other cattle. Choice beef stock commands a fair price, the market for this quality of beef being fully up to that of one year ago, but all other cattle are fully

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10 per cent. lower than on January 1, 1889. Cattle are healthy, and owing to a mild all and winter, and cheap feed, in fine condition.

There has been a steady decline annually in the number of sheep, the decline commencing about 1884. The falling off in numbers the past year can not be chargeable alone to the lower price of mutton, as the market is quite as good for mutton as last year. Mutton breeds are receiving more attention, and only for the prevailing low price of wool and the heavy loss annually by sheep-killing dogs, this class of farm animals would rapidly increase upon our farms in all parts of the State. A tax of $1 per head is laid upon all dogs in the State, and this fund is intended to cover the loss and damage to sheep by worthless curs, yet in some counties it pays only about one-half of such damage and loss.

Although the price of pork is about one dollar per hundred lower than last year, the number of hogs has increased 3 per cent. The large corn crop of 1888 and the low price of corn since, stimulated the production of pork. There is some cholera among hogs, yet the loss from this cause is not greater than in average years, and is severe in only a very few counties, scattered in different portions of the State.

WISCONSIN.

Horses, cows, and sheep are increasing gradually and improving in quality, as more full-blooded animals are being introduced. Low prices and a corresponding depression of spirits prevail among the farmers. With the single exception of sheep, everything is the lowest reported for years.

MINNESOTA.

The increase in horses during the past year has perhaps exceeded any previous one, but is not sufficient to supply the demand, and they are still imported from Iowa, Wisconsin, Illinois, and Missouri. It is a source of regret that the breeding of mules in this State is fast decreasing, farmers preferring horse-teams. There has been a gratifying increase in milch cows, though the average price is lower than usual, but such is the case of all neat stock. The farmers are observing great care in improving the breed of their stock, the line of breeding most followed being for early maturity, an increase in weight, and an increase in milk. Sheep and swine have increased, and, on the whole, stock has been remarkably healthy throughout the year.

The winter, up to this time, has been so mild that much less hay and fodder was consumed in December than usual during that month.

A large majority of the farmers have warm stables to winter their stock in, expeperience proving that stock wintered in this way requires much less food and is in much better condition in the spring. The long-continued drought has caused considerable inconvenience to the farmers, in a few portions of the State, in providing water for their stock.

IOWA.

All stock is in very good condition. The drought during the latter part of the season made fall pasture rather short, but the exceedingly mild winter weather has been very favorable. Little hay or grain has yet been fed to stock-cattle and young horses. No disease nor sickness prevalent to any extent. Hog cholera has not made its appearance in more than five or six counties where any material loss has resulted. About the usual loss has occurred to cattle feeding in stalk fields. Prices for cattle of all ages are very low, perhaps lower than at any previous time in recent years, yet the number does not seem to diminish; while some have reduced their herds others have held on, hopeful for the future. The depression in the cattle business has acted as a stimulus to the horse industry, and there has been for several years an annual increase in the number and value of horses. With about the usual increase in num-

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bers this year, prices for all except the very best representatives of the roadster and draught types, are gradually declining. About the same is true of hogs; the absence of disease and the past three years' good prices insure a large crop for 1890, with prices already on the decline. Sheep have increased more rapidly during the last nine months than any other farm stock. Remunerative prices for mutton and confidence in continued protection for wool seem to be the inducements.

MISSOURI.

There is still an increasing tendency among farmers to raise horses, although there has been a slight falling off in prices of both horses and mules. There seems to be a slight diminution in the number of cows, indicating a disposition to decrease, in the future, the number of beef cattle; although the stock on hand seems to be about equal to that of one year ago, owing largely to a still further reduction of already low prices, and lessened demand. Notwithstanding the increase in value of sheep, there is a decrease in number on hand, due principally to the depredations and constant menace of dogs, from which the State gives no protection to the sheep-raiser. The values of hogs have fallen considerably from those which prevailed one year ago, due in part to the immense corn crop of the season. The general conditions of the year have been unusually favorable for stock. As a rule, pasturage was abundant and continuous through the summer months, and the weather of the fall and winter has been remarkably mild, allowing the stock to be continued on the pastures.

CALIFORNIA.

The number of live stock as compared with one year ago is about the same. The prices of stock have somewhat decreased during the past year if only the common grades are considered, but there is a marked improvement in the quality of stock, and fancy prices can be obtained for choice blooded animals. The condition of all classes of animals was never better. Early rains made good pastures and the mild climate makes shelter almost superfluous.

DAKOTA.

In years past thousands of work-horses were imported from Wisconsin, Illinois, and other States. Many of these were advanced in age and a large per cent. of them have died, but enough are left to reduce the average price of those classed as "over three years old." Within the past two years, however, the interest in horse raising has increased rapidly, and large numbers of blooded stallions have been imported. The demand for milch cows is very small. A few creameries have been running the past season while others have failed or closed.

Owing to the drought and the financial condition of the farmers, a large number of cattle have been sold and shipped. There is a growing tendency to improve this class of stock by the introduction of better blood and the "scrubs" are fast disappearing. Cattle, as a rule, are well protected during the winter.

The large increase in the numbers of sheep, gives promise of a change of policy of many farmers. It has been demonstrated that the climate here is most favorable to the health and growth of sheep, and with the cheap lands, proper care and shelter, and exemption from disease, there is no reason why Dakota can not compete with other parts of the country in the production of wool and mutton.

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COTTON.

The cotton returns for February give local estimates of the proportion of the crop which has left the plantations. The consolidation makes 90.4 per cent., leaving 9.6 per cent. still to go forward. About nine-tenths of the crop has therefore been reported in sight, or is in small stocks unreported, in hands of country merchants, or *in transitu*.

The State averages are as follows: Virginia, 87; North Carolina, 89; South Carolina, 90; Georgia, 90; Florida, 93; Alabama, 90; Mississippi, 91; Louisiana, 89; Texas, 92; Arkansas, 90; Tennessee, 87.

The returns of quality are very high, except in Virginia and North Carolina, and in Tennessee and Arkansas. It is superior in all the States of the Gulf coast.

The percentage of lint from seed cotton is as follows: Virginia, 30; North Carolina, 32.5; South Carolina, 33; Georgia, 32.7; Florida, 32.3; Alabama, 32.5; Mississippi, 32.3; Louisiana, 32.5; Texas, 32.4; Arkansas, 32.2; Tennessee, 32.

The average date of close of picking is about the same as last year in Georgia, Mississippi, Louisiana, and Tennessee, is earlier in the Carolinas, Florida, and Arkansas, and later in Alabama and Texas. The average of the county dates is December 12, ranging from November to January.

The proportion of seed sold to oil mills has been found difficult to estimate, but it is apparently not much over 25 per cent. of the crop, possibly between 900,000 and 1,000,000 tons. The largest proportion reported is in Louisiana, followed by Georgia, Arkansas, Texas, Mississippi, Alabama, and the Carolinas. The average State prices as consolidated are: The Carolinas and Georgia, 18 cents per bushel; Tennessee, 17; Florida, 16; Alabama and Mississippi, 15; Louisiana, 14; Texas and Arkansas, 13.

The damage by insects was greatest in Arkansas and Texas. In Florida, Alabama, Mississippi, Tennessee, and North Carolina it was general, but less severe. Georgia and South Carolina suffered less. The loss from the boll-worm was in Georgia, Alabama, Louisiana, and Texas, greater than that from the caterpillar.

The crop is thus shown to be of good quality, and the largest in absolute quantity that has ever been gathered in the United States.

The following remarks concerning this crop are made by State agents:

MISSOURI.—Under the stimulus of the good crop of the season of 1888, there was a marked tendency to increase the area of cotton in the twelve counties in which the crop is grown, but the season just past has been one of failure from beginning to end. During, and just after planting, the weather was so dry that much of the seed failed to germinate and many fields were plowed up and planted to other crops. The stand was thin. Wet weather set in early in the summer and continued so incessantly as to interfere with cultivation, and caused the plants to continue growing until caught by frost, which came early. Thus the acreage and yield per acre has been consider-

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ably reduced and the quality of the staple seriously injured. Comparatively little damage was done by the boll-worm or caterpillar.

GEORGIA.—The fall was exceptionally favorable for harvesting the cotton crop, resulting in a full yield of above the average in quality. The prevailing market prices have been considerably higher than for several years past. This fact, in connection with the full yield (excepting in north Georgia) and an unusually good supply of corn and other forage and a more rigid and intelligent economy, has brought the farmers of Georgia into a better financial condition than they have experienced in some years.

MISSISSIPPI.—It was expected that on account of the increased area the cotton crop would be above that of 1888, but the unpropitious seasons and the ravages of the boll-worms and caterpillar caused a great reduction, and the crop, in point of number of bales, is not more than four-fifths of the crop of 1888. Some correspondents report that the seed for the last crop was defective and injured, thereby causing the ravages of the caterpillar, which occurred at the time when the plant was in full foliage.

TEXAS.—There was an increase of about 15 per cent. in the cotton crop of 1889 as compared with that of 1888. In the western portion of the State, where the crop has heretofore been raised to a very limited extent, there was a marked increase, and the crop is a very good one, though its quality is not quite up to the average, owing to the unusual quantity raised and the difficulty experienced in getting the crop harvested. The caterpillar appeared in middle and southern Texas, but did very little damage, while the boll-worm destroyed about one-eighth of the crop. All of the cotton seed that could be spared from ordinary feed of stock and for seed this year has been sold to oil-mills.

ARKANSAS.—The cotton crop of 1889 was subjected to more unusual drawbacks perhaps than for many years past, although the season was in many respects exceptionally favorable. The preparation of the soil and planting were conducted under fairly favorable conditions. These were followed by an unusual amount of rain-fall, which continued until late in the summer; this was immediately succeeded by a very severe drought of some four or five weeks' duration, after which there came another long wet spell, which started a new top growth of fruit, and meantime caused the squares and bolls already formed to drop off the plant. About this time the boll-worm made its appearance in many localities, which resulted in considerable damage, more than was at first anticipated, as the output now has more fully demonstrated.

This latter trouble was immediately supplemented by the caterpillar, which caused considerable damage in some localities, while it is claimed that in others, where the plant was late in maturing its fruit by reason of a large surplus of foliage, it was rather an advantage than otherwise. At this period the season for picking arrived, and the weather was all that could have been desired for that purpose, and so continued without rain or frost for over a month, the result being that a large percentage of the crop was gathered in a condition as nearly perfect as possible. In the meantime a very large new "top crop" had nearly matured; then came a most inclement and unseasonable wet spell, which was prolonged throughout the entire month of November, accompanied at its close by a severe freeze or freezing frost, which utterly ruined nearly all the bolls not yet opened. Meanwhile those which were previously in a condition for gathering were badly soiled or otherwise damaged.

It is the opinion of most planters who have given the subject careful consideration that the numbers of both the boll-worm and caterpillar are increasing yearly, resulting in an increased percentage of loss of the crop of each succeeding year, and the best and most effectual methods for their extermination are receiving careful and serious attention at this time. In addition to the caterpillar and boll-worm pests, we are confronted with another of an equally serious character in many localities, viz, what is commonly known as "the blight." This trouble seems to be on the increase, more especially upon cotton plantations which have long been in cultivation,

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and where little or no attention has been given to the rotation of crops. This is a matter which demands serious consideration by cotton growers and others who are engaged in scientific investigations in that direction.

There is one other matter to which the attention of our cotton planters should be directed; that is, the necessity for the adoption of better farm methods and the planting of the latest tested varieties of improved seeds. This suggestion is not a new one, but it derives new force just here, for the reason that several of our correspondents have called attention to the subject through suggestions to the effect that in those counties or communities where farm machinery is used and the new and improved varieties of seeds are planted and cultivated, and have entirely taken the place of the old or common varieties, there is a very decided increased percentage in the yield of lint and seed, while the quality of the same has been greatly improved as well.

The following brief extracts from voluntary remarks of correspondents in sending county returns, refer to various aspects and conditions of the crop history:

VIRGINIA.—*Nansemond:* Very little grown, and in 1889 the constant rain was ruinous. *Surry:* The average yield is from 200 to 250 pounds lint. It costs almost 10 cents per pound to grow it. It is not considered a profitable crop here. *Brunswick:* In portions of county the crop will not make 10 per cent., taking 100 as the basis. In other portions it will range from 30 to 40. Twenty-five per cent is probably a fair estimate. *Dinwiddie:* The crop of 1889 was almost a failure on account of the very wet season: *Prince George:* Crop was unusually poor. *Greensville:* The excessive rains of the summer almost ruined the crop; many fields yielded nothing.

NORTH CAROLINA.—*Pamlico:* The poorest yield for many years, but lint was good in quality. Excessive rains the cause of shortage. *Beaufort:* Almost a failure. Rain commenced to fall June 20 and continued to August 10, giving us forty days of rain out of forty-eight. *Pitt:* Were never troubled in former years to any considerable extent with either boll-worms or caterpillar, but this season the boll-worm did considerable damage. *Bladen:* The boll-worm did some damage. Some seed sold at 20 cents, but when sold and delivered there is almost in every case sufficient deduction to bring price to 16 cents. Farmers are not satisfied with this price, and not as much disposed to sell as heretofore. *Durham:* The weather for picking was favorable, but the yield was short. *Granville:* Much cotton had small and immature seed, even when the staple was fairly good. This may have caused the oil-mills to stop buying seed late in the season; as a consequence price has declined. The mild winter has also had some effect on the prices at gins remote from the railroads. *Iredell:* Seriously damaged by an early frost. Not over a half crop. The staple was not up to an average, and quite a large per cent. was "tinged." *Jones:* A remarkably mild winter; every bit of cotton opened and made good lint. *Pasquotank:* The financial stress which prevails so generally has forced our farmers to realize the money value on both cotton and seed. *Rowan:* Very little stained cotton; the yield of lint to the pound of seed is rather greater than usual. *Vance:* Cotton culture is being abandoned, tobacco and corn taking its place. *Warren:* The past was a most disastrous year; so much rain kept the plant growing and fruiting, and frost of October 7 killed the young bolls. *Mecklenburgh:* The staple is good, but owing to the late opening much is largely stained. *Chatham:* An experienced manufacturer says the quality of the cotton used is fully 25 per cent. below usual standard. *Columbus:* Crop was very promising at one time, but a wet spell for several weeks injured the stalk, which was larger than usual. *Yadkin:* Too near the mountains to be much of a cotton county. Generally the cotton is taken to the factories and exchanged for cotton yarn. *Franklin:* Crop very short and the quality below an average. About 6,000 bales were weighed by our town weigher for 1888, but only 2,800 or 2,900 were weighed this season, and a good deal of this came from other counties. *Camden:* Extremely unfavorable

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season. The caterpillar was very damaging and rain fell profusely for months. *Gaston:* Badly stained by the unusually early frost, but that left longest in the field regained its color to a great extent. *Northampton:* Crop of late cotton was so short it is difficult to report it accurately. *Currituck:* Not half a crop raised; this opinion is based upon general observation and the quantities delivered at gins. *Gates:* The attack of the boll-worm and caterpillar was local, not general. Some crops were nearly destroyed, while others were not touched. *Greene:* The smallest crop ever known, consequently the staple as well as the crop was short. No damage from worms. *Montgomery:* Never within the recollection of the oldest people have we had so near a total failure. *Cumberland:* Crop very short and in bad condition. On account of the new kind of cotton, "Peterkin," the lint has been increased 2 to 3 per cent. We also have a very fine cotton seed, "Allen's long staple," that brings a big price and yields heavily. *Halifax:* Crop was so short that many sold all but planting seed, to pay merchants as much as possible of their indebtedness.

SOUTH CAROLINA.—*Hampton:* Probably one-third of our cotton is of the Peterkin variety, which has a very small seed, and usually yields from 38 to 40 pounds of lint to the 100 pounds of seed cotton. *Baldwin:* This has been a good year, and crops unusually fine. *Colleton:* With the old-time seed it took 1,500 and sometimes 1,600 pounds of seed cotton to make a bag of 500 pounds, now from better seed, with a good gin, 1,300 to 1,350 pounds will make a 500-pound bag; quality of cotton is the best for many years, yet not as much has been made as in years past. *Georgetown:* Two gins are now operating here and their owners are purchasing seed cotton with a view to obtaining agricultural fertilizer; very little seed reaches the oil-mills; an increase of acreage in 1889; farmers are very reticent about acreage and product, also as to farm annuals, which are fraudulently enumerated for tax listing—notoriously so. *Spartanburgh:* While we have been exempt from caterpillar, boll-worm, and storms, an unprecedented crop was prevented by early frost. *Anderson:* The increased yield in lint is more to be attributed to the variety (Peterkin) than to seasons; while there were caterpillars and boll-worms in some localities, the damage from either is not appreciable. *Fairfield:* The caterpillar and boll-worm appeared in so few plantations, that while they damaged these crops, they did not hurt the general yield to any extent. *Newbury:* Quality of cotton has been unusually good; more seed sold to oil mills than ever before; very little stained cotton. *Laurens:* Crop opened well; very little yellow or stained cotton; the extra turn out from the seeds was owing partly to improved varieties, mainly the Peterkin; oil mills are becoming common and a large amount of seed has been sold, much to the detriment of the land, as the meal will not be returned in many instances; the last big sales are over at 10 cents. *Berkeley:* Crop was marketed gradually this year; more would have been held but necessity obliged the farmers to sell; a great deal of seed is exchanged for meal, the mills paying freight on both seed and meal returned and ginning a little more than half meal.

GEORGIA.—*Cobb:* Our farmers do not think they made over half a crop, owing to boll-worm and early frosts. *McIntosh:* The greater portion planted is Sea Island (long staple), nearly all of which is sent to Savannah to be ginned and packed, as home advantages are crude and limited. *McDuffie:* Our first killing frost, November 28, aided the late cotton to mature, increasing the yield 5 per cent. The remunerative price of cotton, with a rich harvest of corn, has put the farmer in much better pecuniary condition than for many years. *Webster:* Prices have ruled higher and satisfactory results have been obtained. Quite a portion of indebtedness for past years has been liquidated, and cheerfulness generally abounds. *White:* A frost in September decreased crop about 50 per cent. *Newton:* The crop and price, taken together, was very satisfactory. Our people are in much better condition than usual. *Twiggs:* Farmers are slow to sell cotton-seed, the majority using it to compost with barn-yard manure and acid phosphate, the best known fertilizer for cotton. Cattle, and mules are largely fed on cotton-seed hulls and cotton-seed meal, a peck of the former and three gills of the latter being an excellent feed. *Walton:* No rains or storms to

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tinge cotton; staple about an average; damage by caterpillar and boll-worm very slight. We have two oil-mills, with machinery for manufacturing fertilizers. *Wayne:* About 95 per cent. of our cotton is Sea Island and the seed of that variety is richer in oil, and weighs about 45 pounds per bushel, while the upland cotton-seed weighs only 30 pounds per bushel; hence the difference in price of seed. *Early:* Boll-worm and caterpillar came too late to do perceptible damage; the high price of seed caused many parties to sell who never sold before. *Lowndes:* We never had a better gathering season; none lost by storm, etc. *Dougherty:* Was saved almost without any loss; the bulk of it would class good middling. *Henry:* Early cotton made one-third more than late. *Jasper:* The yield per acre in forward cotton was unusually good; the late cotton reduced the quality. *Terrell:* A good cotton year; farmers made the crop at as small an expense as possible, sold at a good price, and nearly paid off debts; are in better condition generally than since the war. *Catoosa:* There are no oil-mills here, but cotton-seed has a market price varying from 15 to 20 cents per bushel. *Clinch:* Caterpillar made its appearance too late to injure the crop. *Dawson:* By far the shortest crop, both as to acreage and yield, for a number of years; no seed is sold to oil-mills from here—all is used for feed and making compost. *Gordon:* It is probable that the county made an average crop. *Pierce:* We raise very little upland cotton, but rather what is known as Sea Island or long staple, black seed. *Thomas:* There never was a crop made at less expense or with less labor than that of 1889. *Troup:* A few caterpillars and boll-worms appeared, but in such limited numbers that little damage was done; unusually large crop. *Monroe:* Owing to very mild winter, all cotton has opened, and the result is an unusually fine crop. *Baker:* Fine gathering season; cotton was never picked and ginned with more freedom from trash and dirt. *Dooly:* The caterpillar appeared in some sections, but the long and continued drought prevented them from doing much damage. *Telfair:* The grade was some better than last year, but no more was made. *Charlton:* Short staple cotton is not raised here. *Coffee:* Quality best in ten years; no injurious weather since August 1. Seed cotton, being clear of dirt or trash, has yielded 2 pounds more lint to the 100 pounds than usual. *Hart:* Unusually favorable fall for picking, but the crop was short on account of stand, caused by late frost in the spring. Dry fall, consequently little stained cotton. *Effingham:* Cotton-seed is sold here to the citizens, and when sold it is worth 15 cents. We do not sell to oil-mills. *Jackson:* A tolerably good crop; the lint good, and not much yellow. *Harris:* A remarkably good fall for gathering cotton. Altogether, we made a good average crop. *Calhoun:* Cotton-seed, when sold, is returned in guano. That which has cotton-seed for a base is decidedly the most popular food for plants. *Campbell:* Most of the seed sold to oil-mills has been by colored tenants. The Farmers' Alliance does not permit its members to sell to the Trust oil-mills, hence the small per cent. sold. Co-operative mills and fertilizers are yet in their infancy; the future seems bright for this industry. Those who used fertilizers were well paid, hence an impetus to use more the present season. *Douglas:* Cotton not as good as it once appeared. Early frost injured it to some extent, especially on low bottoms. *Houston:* Damage by caterpillar was offset by favorable picking season. Seed that is sold is mostly by tenants. *Madison:* Killing frost October 7 and 8 was principal cause of shortage.

FLORIDA.—*Putnam:* A remarkably favorable season for picking and housing, consequently average quality, length, etc., fine. *Citrus:* If a remedy could be found for red bug, farmers would go to raising cotton and make it profitable. Five hundred pounds in the seed was the average yield. From 1858 to 1887 we averaged 150 bales. Sea Island, good quality. *Wakulla:* A very favorable gathering season. A few caterpillars appeared early in the fall, but did no perceptible damage. Cotton-seed is used here as a fertilizer.

ALABAMA.—*Geneva:* The increase is the result of favorable climatic condition and increased acreage; cotton-seed is used as a fertilizer and to feed stock. *Hale:* This crop was the easiest and quickest gathered of any grown for ten years; all cotton in

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southern part of county sold; in the northern half only a few planters hold any. *Greene:* Unusually favorable fall for handling crop; farmers are in better condition than formerly; money is now being advanced on crop of 1890 at 15 to 20 per cent. *Coffee:* Increased acreage; crop 5 per cent. better than usual; remarkably favorable gathering season, hence cotton free from trash and stain. *Colbert:* A half crop, owing to heavy rains, late planting, caterpillar, and boll-worm. *Limestone:* The general failure in cotton is not due to boll-worm or caterpillar, but to dry spring, wet summer, and frost of October 7 and 8; caterpillars hasten the maturity of some crops. hence were an advantage this year. *Monroe:* 33 pounds of lint cotton per 100 pounds of seed-cotton is more than an average yield; cotton classed very fine. *Shelby:* The high and well-sustained price for cotton has stimulated farmers to buy largely of fertilizers and prepare for a greater acreage in 1890; they are even now making every day of this phenomenal winter tell in this work of preparation. *Dallas:* In every respect last year's crop was good; it cost less money to make it than is common. *Winston:* Frost cut off cotton 10 per cent.; about 600 bales were raised in this county. *Cherokee:* There should be a difference in yield of lint in different crops, but practically they are about alike in that respect; the farmer takes 1,500 pounds to the gin, which pays for ginning, and returns him a 500-pound bale of cotton. *Clay:* From best information the increase of 20 per cent. above last year's crop is probably due to increase of acreage. *Lee:* The extremely fine weather during picking season and the good price made farmers market cotton freely, hence there is little on hand at present. *Pickens:* About 400 tons cotton-seed are brought here each year from other counties; no cotton-seed sold to oil-mills, except by a few tenants. *Sumter:* Farms are mostly worked by colored tenants, who generally sell everything from the land; landlords will have to contract to have seed left or returned to the land, or it will become very poor; the Peterkin cotton-seed gives us the best yield, but not much is planted, it being a new variety. *St. Clair:* We always have some boll-worms and usually some caterpillars, but the injury from these causes was quite small this season. *Clarke:* Cotton here generally classes middling and good middling. *Bibb:* Larger weed than common, owing to continuous rains in July and August; rapid growth is unfavorable to heavy fruiting. *Choctaw:* Damage very small from caterpillar and boll-worm. *Lawrence:* Damage fully 30 per cent. by early frost in October; owing to large stand the effect was most disastrous. *Conecuh:* Some varieties of seed have produced 40 pounds lint to 100 pounds seed, especially Peterkin, but the greater portion was the "Old Green Sea," which will generally average 33⅓; all the seed is utilized for feed and fertilizer; the price has kept up. *Blount:* On high or ridge lands the frost of October 7 did no damage; shortage is due to its effect on hollows and valley land.

MISSISSIPPI—*Lee:* Loss by army and boll-worm, 60 per cent. Late drought cut it down at least 7 per cent. more. Quality is good, clear of dirt and trash, and was marketed in a perfectly dry state. *Oktibbeha:* Spring plowing unusually well advanced; everything indicates that the crop of 1890 will be put in earlier by two weeks than usual. *Sharkey:* The use of Paris green saved the crop. *Coahoma:* The general turnout was considerably less than expected. The blight did much damage in some places, one correspondent reporting the injury at 30 per cent. *Madison:* Boll-worm did much damage early in the season to the tall, rank cotton, but when drought set in its ravages were much less. I regard the oil-mills as a great injury, as many farmers sell all their seed, and put back nothing to fertilize their worn-out lands. Seed is worth 30 cents as manure to the farmer. *Monroe:* Caterpillar appeared three weeks earlier than usual, defoliating plant, stopping growth of bolls, consequently shortening staple. *Tippah:* Caterpillar appeared about the last of September and soon stripped foliage from the plant. A light frost followed, completely destroying bolls not matured. These facts, added to the lateness of the season, contributed to shorten the crop. The large per cent. of lint from the seed is owing to the lightness of the seed, not being matured. *Clarke:* Crop unusually good. *Jasper:* The acreage is

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not increasing; cause—emigration and increasing acreage in grain and forage. *De Soto:* Caterpillar and boll-worm were very destructive, and following heavy damage from continuous rains in June, and poor culture in consequence of same, helped to shorten the yield very materially. *La Fayette:* In consequence of the drought in August the squares dropped freely; then came the caterpillar and swept the entire crop, reducing the yield one-half. *Leake:* The boll-worm commenced its ravages about the last of August; the extent of its depredations is never realized until about the middle of October, when the perforated bolls begin to crack and open; the caterpillar came too late to do any material harm. *Yalobusha:* A very peculiar year so far as cotton is concerned; the only really favorable part of the season was during gathering time. *Jefferson:* Loss was heavy from worms; most of seed sold to oil-mills. *Jones:* Picked and marketed in best condition for years. *Chickasaw:* We count the crop almost a total failure *Hinds:* The beautiful dry fall gave planters a chance to save the finest crop for many a year; 90 per cent. of all gathered is classed middling; the balance good middling. *Alcorn:* Very short, owing to wet weather and worms. *Amite:* The increase of acreage and number of hands engaged in its culture is the cause of increase in crop; but for this there would be a falling off in proportion to the wear of the lands. Of late, planters of advanced ideas have improved the yield of partially exhausted lands by a free use of commercial fertilizers. *Calhoun:* Damaged by excessive rains in spring and summer, afterwards by vast numbers of caterpillars which destroyed the leaves and young bolls. *Benton:* Unusually short; caterpillar, boll-worm, frost, and inability to work properly, owing to extensive rains, all contributed to render it so. *Chootaw:* Crop turned out better than was expected.

LOUISIANA.—*Iberia:* Drought injured cotton very much and caterpillar did some damage, but owing to increased acreage the crop was better than in 1888. *Catahoula:* Boll-worms not numerous in 1889; caterpillar came too late. Some use poison with success, others say it did no good. *East Feliciana:* Very little stained or trashy cotton, owing to the very dry fall. *East Carroll:* A little more made than in 1888, considering acreage as well as yield; the yield of lint to the 100 pounds seed cotton is 33 pounds; the variation from this each year is very slight; it will sometimes vary a little if gathered clean or where land is very rich. *Natchitoches:* A remarkably fine picking season; hence the crop was gathered more free from dust and trash than an experience of thirty years has shown; are now planting cotton. *Vermillion:* A promising crop was first injured by stormy weather 25 per cent., and drought and worms took the balance; less trash than usual, but lint shorter, hence quality 95 *Caddo:* The oil-mills are a curse to our county; cotton seed is worth 30 cents per bushel as a fertilizer, but with the tenant system, which prevails largely, the laborer can not be induced to use it. *Iberville:* The shortage in crop is principally due to unusually dry year. *Pointe Coupée:* Almost unprecedented season for cotton; no wind, no rain, no frost; good health; good relations between blacks and whites. *Richland:* We have seldom had superior seasons for gathering and maturing of late crop; the increased percentage from 33 to 36 pounds per 100 pounds seed cotton may in part be attributed to its freedom from dirt and trash before gathering. *Sabine:* Owing to the good season cotton was gathered as fast as it opened; none being lost on account of rains, or lack of pickers; crop sold for the best prices all the way through. *St. Tammany:* Damaged by rust on light lands, and stand was bad in some places. *Terre Bonne:* So little raised here it is hardly worth notice.

TEXAS.—*Mills:* No caterpillar; boll-worm did some damage. *Taylor:* A favorable picking season; quality was good, color was nice; comparatively free from trash. Worms were noticeable, but less than for several years previously. *Webb:* Was planted here for the first time last year; the little grown is very good; acreage will be increased. *Williamson:* When the season opened cotton seed brought 15 cents per bushel, cash, delivered at the depot, the latter part of the season; 10 cents was the ruling price. *Comanche:* Most of the seed is sold to sheep-men of another county; sometimes it brings 20 cents per bushel. *Johnson:* The weather has been

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favorable for preparing land for next crop, and farmers are pretty well up with their work. *Medina:* Caterpillars did good rather than damage; by eating off the leaves the sun was permitted to reach the bolls more freely. *Milam:* Not for thirty-one years has there been so warm a winter; great destruction by insects is apprehended the coming season. *Washington:* The present crop will be a little short, but the quality is good. *Bastrop:* Gathering season was so favorable that a good crop was saved, though other conditions were unfavorable. *Denton:* The boll-worm continued to damage crop till frost came, and many of the moths are hidden about in trash in the fields. *Jones:* Increase of quality in proportion to increase of acreage; no complaint of caterpillar or boll-worm. *San Saba:* There will be at least double the amount of land put in cotton this year, compared with last. *Leon:* The loss by caterpillar would have been very heavy but for the successful use of London purple. *Montgomery:* Bales are estimated at 110, not that the crop was as good or equal to that of 1888, but owing to increased acreage. The gathering was not hurried, consequently the staple and classification were better. This year's acreage will be in excess of last year's. *Tyler:* Less cotton raised than ten years ago. The county is full of saw-mills, and there is a market for almost anything the farmer can raise. A few farmers think they can not live if they do not make some cotton, and every man who plants it sinks money. *Brazoria:* Unusually bad cotton season; first too dry, then too wet; afterwards too dry again. *Collin:* The planter gets about 10 cents per bushel. *Coleman:* Better in yield, length of staple, and freedom from trash than that formerly raised. The price given for seed (10 cents) is what is paid at the gins. It is used for feeding stock and for planting the coming season. *Hood:* Crop is 50 per cent. better than for years. Very little of our cotton thirds itself. The toll seed only was sold to oil-mills. Farmers use their seed for cattle feed in winter and spring. *Austin:* Acreage was much larger than in 1888, but more than the increase was abandoned in June and July, owing to continuous rains from June 10 to July 20. *Clay:* The caterpillar did not appear till about one week before frost. *McCulloch:* We are too remote from oil-mills to ship, and home demand for stock feed is too great to allow shipping to pay. *Mason:* Cotton seed here is only used for feed for milch cows. *San Augustine:* About 75 per cent. of the crop was gathered previous to any heavy rains, therefore was quite free from dust, but was a little trashy from the cuttings and droppings of the caterpillar. *Bexar:* The market for cotton seed opened at $9 per ton and closed at $6. *Shelby:* Seed is worth 10 cents per bushel for fertilizers.

Kaufman: Although the crop suffered severely from caterpillar and boll-worm, yet we have already shipped the largest amount ever raised here. Will ship nearly 20,000 bales. Cause of increased acreage, failure of wheat and want of wheat-seed. *Waller:* Cotton opened up with flattering price, up to 11 cents. This stimulated the picker, but in a few weeks down it went. Upper portion of county finished picking early in November—low in December. The crop was well handled by the former. *Cameron:* There are but two cotton gins in this section, which mostly gin all raised here; but some is sent by steamer to Galveston or New Orleans. The 5 per cent. retained is for re-planting. *Nueces:* Cotton culture is a comparatively new enterprise here. We bid fair to rival any portion of the South in quality of staple, etc. *Morris:* Boll-worms unusually injurious. Damage is 60 per cent. from the 1st of August prospect. Buyers say cotton would have graded 100, but for stain from boll-worms, no sand, no trash. *Jefferson:* We had several sets of caterpillars, but by sprinkling Paris green broadcast—about 1 pound per acre—but little damage was done. *Live Oak:* Cotton is destined soon to be in the ascendency, as it is evident it can be grown very successfully. The worm did but little damage in 1889. *Callahan:* Crop is planted, worked, gathered, ginned, and baled by white people, and is generally gathered as fast as it opens, hence it is not full of trash, nor stained, but grades very high. County bids fair to be A. No. 1 for cotton. Acreage of 1890 will probably be double. *Fannin:* Failure in crop is due to excessive rain-fall in summer, and some damage from worms. *Gillespie:* All of our cotton-seed is used to feed to cattle and

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sheep during the winter. Price $2.50 per 1,000 pounds. In parts of county it was as low as $1.75 per 1,000 pounds, and there it was used as firing material by gin owners. *Tom Green:* The second year cotton was ever planted here. About 240 acres. Total yield 235 bales of 500 pounds weight. Average quality is "middling."

ARKANSAS.—*Van Buren:* Bad stands offset the difference of acreage. *Lawrence:* Both quantity and quality of the product were very unsatisfactory to the producer, due to drought during germination season, followed by continuous rains, which kept the plant growing till frost came. *Crittenden:* The shortest crop ever known in this county. *Randolph:* Early in the blooming season the crop promised well. The wet weather kept the plant growing, so that the bolls did not ripen. In many instances there was not a single ripe boll on the stalk, when a freeze came and killed all. *White:* That on fine bottom lands did very poorly, on account of excessive rains. *Sevier:* A disastrous year. We have been troubled with sharp-shooter, boll-worm, and leaf-worm. *Montgomery:* Would have been a good average if the boll-worm had not visited us. The caterpillar came too late. No oil mills, but seed is sold for stock feed at 12½ cents per bushel. *Jackson:* Estimates as given may seem small, but they are obtained from the gins, which is the best source of information. *Baxter:* Unusually fatal year; frost in May, with too much rain in the fall, cut crop at least 50 per cent. short. *Calhoun:* On the whole this has been an extra crop year. *Logan:* Seed is mostly used for fertilizers and cattle feed, and finds ready sale at 10 cents per bushel—32 pounds to the bushel. *Saline:* Caterpillar and boll-worm appeared only in certain localities, hence the damage was not very great. *Yell:* The most fertile bottom land was infested with boll-worms, causing almost total destruction in some fields. Tracts of low ground through sandy fields were destroyed, while high ground around was not attacked. *Monroe:* There was an increase in acreage and a decrease in yield in 1889 compared with 1888. *Ashley:* About 10 per cent. damage from boll-worm and caterpillar, but a favorable year otherwise. We made about 10 per cent. more cotton than in 1888, a 5 per cent. better staple and a small per cent. more of lint per acre. *St. Francis:* Worms appeared on some of the best land in the county early in August and stripped thousands of acres, cutting off the yield fully 20 per cent. All the increase in acreage was more than offset by the amount abandoned to the grass on low wet land. It rained through most of June and July. *Cleveland:* Three-fourths of the farmers plant the Peterkin cotton which is a short staple, but yields at the gin 40 pounds lint to 100 pounds seed. *Poinsett:* Quality is short as regards length of staple. Cotton is very yellow, on account of drought in April and May. Caterpillars appeared late in the fall and did some damage, but can not tell to what extent. *Franklin:* In some localities the boll-worm damaged cotton 50 per cent., in other places not so much. Cotton is unusually nice and clean. Caterpillar cut off leaves, but too late to do serious damage. *Perry:* This is the first year the boll-worm appeared in any numbers. They attacked old and sandy lands on the Arkansas River and never injured new or fresh lands. Damage in some places 50 to 65 per cent. Uplands not attacked, but army-worm ate off leaves and hastened opening. Peterkin and Allen long lint about 30 to 40 per cent. above common crop. *Carroll:* A great increase of acreage, mostly on new ground. The spring was cold and cotton late. Seed was sold to farmers at 11 cents per bushel for feeding cattle. *Howard:* The crop of 1889 was below an average. The increased acreage made up the crop. *Nevada:* The caterpillar coming, as it did, late, was a blessing rather than a drawback. Had it not stripped the leaves much would have failed to open. *Ouachita:* The winter has been so mild that it is feared the millers from the caterpillar, which are still numerous, will live through the winter and attack the cotton early in the spring.

TENNESSEE.—*Benton:* Owing to the wet season and early frost, cotton has not made more than one-fourth of a yield. *Tipton:* The shortest crop gathered for a number of years, owing to variable weather, and an early attack of caterpillar mostly killed the middle and top crop. *Weakley:* The farmer generally gets about 12½ cents per

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bushel for seed from the buyer, who sells to the mills for about 15 cents average. *Bedford:* Being in the frost belt last October our crop was shortened considerably. Oil-mills will have to double their prices before they can buy our seed. We use them at home, first as seed, then as manure. *Lauderdale:* But little cotton remaining unpicked; all share croppers and most small renters sell their part of the seed. *Lewis:* Early frost caused almost a failure; lint short, seed light. *McMinn:* Light in quantity and poor in quality; seed is mostly used for feed. *Chester:* Did better than we anticipated; the staple was rather short, owing to lateness of maturity. *Dyer:* Cut very short by excessive drought in May, excessive rains in August and September, and early frost in October. *Hickman:* Almost a total failure; cause, first, early drought, then early frosts. *Lincoln:* Caterpillars caused much cotton on low lands to open and mature before October frost, and to that extent were a benefit. *Lawrence:* The early picking would compare favorably in staple with any former picking and it is free from trash; the late picking is stained by frost. *Monroe:* The little planted was almost an entire failure. *Carroll:* Extremes of wet and dry weather made the past year unfavorable for crop. *Gibson:* The estimate given (33 per cent.) of the number of bales grown is rather above than below the mark; there was fully 25 per cent. increased acreage, and the general estimate is about one-fourth of a crop. *Fayette:* A late backward spring and an early frost in the fall prevented cotton from maturing as well as usual and there is proportionately more faulty and immature seed than for many years past. *Maury:* Yield of lint has been full in consequence of extreme lightness of seed, which are not well matured. *Williamson:* Crop was a dead failure on account of early frost; the stand was good and much was large and full of bolls; the cotton saved was opening bolls after frost, a very uncommon occurrence.

MISSOURI.—*Pemiscot:* Very short this year. De Lisle Bros., who do a good local trade, ginned and baled, in 1889, 842 bales, and in 1890, 190 bales. This is a little over an average with other gins. *Oregon:* The southern half of the county produces a fair sample of cotton, but this season was too wet and cool. *Stoddard:* Almost a failure; very yellow, owing to early frost; is also very trashy, as it had to be squeezed from the boll, on account of the failure to open. *Butler:* Rain the last of August and first of September caused cotton to grow too much to weed, and grow so late that it did not open well. *Mississippi:* Very little grown here and 1889 was a bad season for cotton. Planting time was too dry, and later there was too much rain.

MISCELLANEOUS NOTES.

Relative to unfavorable meteorological conditions prevailing throughout the winter and the resulting damage to the agricultural interests, the California agent says:

The most continued rains and snows in the mountainous regions have flooded the largest grain growing valleys of the State for two months; but little grain was sown before the rains commenced, and most of this is drowned out. Even should the floods subside it will be a month before farmers can put in their crops, and it will be so late then that the grain will not get a sufficient stand to withstand the summer drought. Even fruit trees and vines have, in many places, been submerged so long that they must suffer from root rot, and thus two of the leading interests of the State receive a serious check and perhaps a lasting injury. The losses among the stockmen are also very serious; thousands of cattle and sheep have been drowned and also turned adrift in the snow for want of feed, where they will perish miserably. Railroad communication has been stopped for days and weeks at a time in nearly all sections and business is entirely prostrated. Thus the prospect of a prosperous year for agriculture, which was bright in November and December, is now changed to one of the most gloomy ones the State has ever seen, while the miasma from the flooded valleys is also sure to bring malaria and other diseases and make this one of the most unhealthy seasons California has ever known.

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It would be premature even to guess at the amount of damage caused by the weather, but there can be no doubt that it will be very heavy; all the more so because our farmers have become so used to our mild and equable winters that they make but little provision against such casualties. If it should induce them to pay more attention to diversity of crops than has been done so far it will have taught a valuable lesson. There is no doubt that the usual hay crops from grain sown in winter, for which the prospects are now destroyed, could be largely replaced by planting corn, sorghum, Kaffir corn, beets, and carrots, and I trust this will be done, as these can be cultivated successfully in most parts of the State.

The wine interest, which had already suffered heavy losses by early rains which prevented many from bringing in their crops and reduced the total outcome of the season fully one-third, had begun to revive under the influence of better prices, so that it was hoped the deficiency in the yield would be made up by the highest figures obtainable. But the prices are falling again, owing to difficult transportion and general prostration of business. I hope this may be but temporary, and brighter weather may also bring increased activity for the business, which has been ruinously dull and low for nearly two years.

OUR FOREIGN TRADE IN DAIRY PRODUCTS THREATENED.

The products of our dairying industry form a very large item in the aggregate value of our annual exports of agricultural products. The foreign trade in butter and cheese was early inaugurated, and for nearly a century the records show a gradual enlargement of the annual shipments, though, as in all other foreign trade, there are periods of marked fluctuations. The first recorded shipments were in 1790, when 469,224 pounds of butter, valued at $48,587, and 144,734 pounds of cheese, valued at $8,830, were sent abroad, though there is evidence that this export trade began much prior to this date between the colonies and the mother country. In the earlier years of the history of our commerce butter constituted much the larger portion of dairy exports, frequently amounting to two-thirds of the whole; but the foreign demand for cheese grew more rapidly, and in 1842 its exportation exceeded that of butter for the first time, and from that date up to the present it has annually made up the largest part of the trade.

The terrible drain incident to our civil war, making necessary the shipment abroad of an immense amount of raw produce to pay for our extraordinary purchases of military supplies, resulted in abnormal shipments of both butter and cheese during the whole period from 1860 to 1865. The exportation of butter increased from 4,572,065 pounds in 1859 to 15,531,381 in 1861, 35,172,415 in 1863, and amounted to 21,559,892 in 1865. The cheese trade was hardly less affected, the shipments rising from 7,103,323 pounds in 1859 to 53,154,318 in 1865. With the return of peace and the cessation of our purchases of foreign munitions of war the exportation of butter fell again to about the average of the period from 1843 to 1859. With the trade in cheese, however, it was entirely different. During the period when we were forced to make large shipments to help pay for our own necessary supplies the people of foreign

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countries acquired a taste for our cheese product, finding it superior in flavor and quality to that ordinarily found in their own markets, and a permanent demand was created which was scarcely affected by the reaction following the war period. The amount sold abroad found a constantly widening market, the aggregate steadily increasing almost year by year until in 1884 it reached the highest figure yet known, making the magnificent total of 147,995,614 pounds, valued at $16,380,248.

Cheese is a product more appreciated and an article of more popular consumption in European countries than in our own. In many large districts it constitutes one of the staples of food, largely taking the place of the meats which the lower classes find themselves unable to afford, making a diet at once both wholesome, nourishing, and comparatively cheap. Abroad it is essentially the poor man's luxury. Under these circumstances it is natural and proper that we should develop a large trade, and if the reputation of our product be maintained the next decade should show an expansion of the trade quite as remarkable as did the past. With constantly improving stock and dairy methods, with our wonderful resources in cheap and abundant pasturage, with the tendency toward concentrated effort in co-operative dairying and creamery establishments with abundant capital, resulting in a uniform grade of product at a cheaper cost of production, we should be able to supply the wants of thousands of the old world's workers, where we now supply hundreds. Even so long ago as in 1880 the census returns showed that nearly 90 per cent. of the product of the country was made in factories, and of the product of that year, 243,157,850 pounds, more than one-half was sold in foreign markets. The value to this industry of the foreign trade and the increase of the foreign demand is shown by the fact that while our aggregate product increased only 50 per cent. during the ten years from 1870 to 1880 the shipments abroad considerably more than doubled, the figures being 57,296,327 pounds in 1870 against 127,553,907 pounds in 1880.

At the present time, when complaints of the depression existing in American agriculture are everywhere heard, the value of such a foreign demand for our surplus products can be appreciated, and all possible means should be used to cater to the demand and extend the trade. The exportation of agricultural products is most profitable when the items are in the most concrete shape possible, the greatest value with the least bulk. The exportation of our surplus corn and forage in the shape of meat gives our farmers a double profit; the profit upon the corn fed, and remuneration for the labor expended in producing the meat, besides returning to the land the constituent elements withdrawn from it in growing the crop, which would be wasted were the bulky corn and stover shipped away in its original state. The same double profits are made when the grasses and grains are sold in the shape of dairy products. The transformation takes place at home, maintaining the

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fertility of the soil, giving additional employment to rural workers, and reducing to a minimum the necessary cost of transportation. Butter and cheese are among the most highly concentrated products of farm labor, cheap and easy of shipment, and for which there is a steadily increasing demand growing with the ability of the masses throughout the civilized world to indulge in wider and better food supply.

Competition makes necessary improvement in the standard of quality, and if our dairying interests are to maintain their present rank they must guard carefully the reputation of their product. The damage to the producers of honest butter which has resulted from the manufacture and introduction of oleomargarine and spurious imitations of the natural product is well known and appreciated. The records of our foreign trade reflect it. Our exports of butter were steadily increasing, and had reached a value of nearly $7,000,000 per annum when the appearance of the counterfeit among our shipments excited the distrust of foreign consumers. Since that time the demand has fallen off steadily, and our shipments now average only about $2,000,000. This annual loss of something like $5,000,000 of trade to our dairymen is only offset by approximately $2,000,000 increase in the shipments of oleomargarine. The first figure represents the annual damage already done to honest butter-men, and $3,000,000 annually the absolute loss to the trade of the country.

This experience should cause those interested in the industry to pay careful attention to complaints that are now being made abroad relative to the quality of the other branch of their product, our cheese shipments. The trade in this article has grown to its present proportions because of its reputation for quality, and any permanent deterioration will lose us our market as quickly and as surely as have the shipments of inferior and spurious butter since 1880. The damage which even suspicion will work can hardly be measured. On suspicion alone, without a particle of foundation, our pork products are denied sale in several countries of Europe, and it behooves our cheese-makers to watch closely the character of the product sent abroad and sold as American cheese. Yet it is probably only a pretense of suspicion, to mark the policy of exclusion, adopted for the encouragement of home production and better prices for these farm products.

The United Kingdom is our great market for cheese, that country taking more than 80 per cent. of our shipments. The following communication from the Liverpool Provision Trade Association and Exchange Company Limited, addressed to our consul at that port and referred through the honorable Secretary of State to this Department, contains grave charges, which if true demand united action among those interested in the dairy industry:

LIVERPOOL, *January* 8, 1890.

DEAR SIR: The directors of this association respectfully wish to draw the attention of your Government to the exportation from the United States to the United Kingdom of what is termed "filled cheese."

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This article is a compound of skim milk and grease, such as old butter, oleomargarine, or lard, the favorite ingredient being at present stale butter, on account of the belief of the manufacturer that they can thus defy the analyst.

My directors believe that this product is exceedingly harmful to the dairy farmers of your country. It is not the natural product of the cow known as cheese. It is a well known fact that for the past five years since this fraud has been practiced the price of pure cheese instead of advancing in the spring months has steadily declined.

This product is neither wholesome nor palatable, but is injurious to the American cheese trade, as it curtails consumption of the pure article, disgusting the community with American cheese as an article of food.

We believe the true remedy lies in prohibiting the production of filled cheese, which is manufactured in the Western States, chiefly in Ohio, Illinois, and Wisconsin. We are informed that New York State has prohibited its production.

We ask you for your assistance in this matter and trust you will not only put the matter in the hands of the Government, but suggest that they should draw the attention of the dairy associations and governors of the various States where this article is produced.

Your obedient servant,

J. L. HARWOOD BANNER,
Secretary.

THOMAS H. SHERMAN, Esq.,
American Consul, Liverpool.

If these statements are true, then unscrupulous manufacturers are doing irreparable damage to important rural interests, and immediate steps should be taken to suppress the evil. Its effect upon our trade is already too apparent. Shipments have fallen off almost steadily since 1881, the decline being from 147,995,614 pounds in 1881 to 84,999,828 pounds in 1889, a loss of 63,000,000 pounds, representing over $8,000,000. The shipments to England alone have fallen off more than 50,000,000 pounds. The cause for this loss to our trade may be readily found. The communication quoted puts it plainly. The cause known, the remedy must be applied by those most in interest.

EUROPEAN CROP REPORT FOR FEBRUARY.

GREAT BRITAIN.

The general aspect of the English crops has called forth few if any complaints. The weather of early December kept back vegetation so that the forcing effect of a mild January has not advanced the crops beyond a healthy growth.

FRANCE.

Le Journal de l'Agriculture in its annual review of French agriculture takes a hopeful view of the future, and speaks of 1889 as having shown in nearly every department of farming a substantial improvement on the results of the past five years, both in the prices obtained

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and in the yields of the principal products except wine. The reports of the prefects on the general condition of the autumn sowings are as follows: *Excellent* in 36 departments; *good* in 28; *fair*, 15; *mediocre*, 9; *bad*, 1. Prospects of the crops are: *Excellent* in 29 departments; *good*, 37; *fair*, 13; *mediocre*, 8. Area compared with average: *Superior* in 20 departments; *equal*, 49; *inferior*, 14. In general it may be said that these indications are not as good as those of last year at this time, but are much better than in 1888. Up to date the prospects appear satisfactory, but from the forward state of the crops there is a fear that should February turn out frosty considerable damage would result.

The new agricultural tariff committee, of which M. Meline, the late minister of agriculture, is president, is strongly protectionist in its composition, and will probably report in favor of higher customs duties on maize, rice, and other products. The agricultural press are urging that a duty be placed upon foreign bread, now admitted free, which has increased in importation from 12,690,805 kilograms in 1888 to 28,052,529 kilograms in 1889. In deference to the repeated demands of the farmers the minister of war has decreed that under the present conditions the supplies of wheat for the French army shall be furnished from the native product to the exclusion of the foreign. The importation of maize has increased from 3,187,448 quintals in 1888 to 5,217,316 quintals in 1889, 40 per cent. of which came from the United States. Imported oats show a falling off of 50 per cent. in 1889, while rye has remained stationary.

The official report of the quantitative yield of wine and cider this year is a great surprise, the results being smaller than in any year since 1856. The principal causes of the deficit have been the increase of the attacks of phylloxera, mildew, and black-rot, stimulatedby the humidity of the last spring, the persistent rains during the budding period, and the exceptional dryness of the summer in the south. There has also been a falling off in the acreage under vines. In 1888 there were 1,843,580 hectares under cultivation, against 1,817,787 in 1889. The production was 30,102,000 hectoliters in 1888, and only 23,224,000 in 1889. The yield of cider was only about one-third that of 1888, having in that year been 9,767,181 hectoliters, and in 1889 only 3,701,342.

AUSTRIA-HUNGARY.

In Austria-Hungary the month has vibrated between periods of mild, open weather, with abundance of rain, giving the season a spring-like aspect, and occasional relapses into rough weather and frost. The general advices from both Vienna and Budapest are that the cereals are passing through the winter well. The official report of the Hungarian ministry of agriculture of January 22 speaks highly of the prospects in the different subdivisions of the Kingdom, mentioning that despite the mild weather immense areas of cereals in excellent condition are still protected by snow from being injured by any sudden frost.

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GERMANY.

Reports from all parts of Germany speak of the extraordinary mildness and moisture of the season, the rapid disappearance of snow, and the early opening of navigation. The autumn crops have a somewhat forward but satisfactory appearance.

SPAIN.

During the earlier part of the month of January, reports from many districts in Spain spoke in most doleful tones of the damages done the cereal crops by the prolonged droughty and frosty weather, which was causing the value of wheat to advance rapidly. Later on, general rains in the chief agricultural regions allayed the growing fears, and prices and prospects have now returned to a normal level.

RUSSIA.

The annual reports from the chief shipping ports and agricultural centers in the interior abundantly confirm the Government estimate that the 1889 yield of wheat was fully 33 per cent. less than that of 1888. The weather has been generally mild throughout the Empire since early autumn, and the favorable conditions of the sowings are reported from both the North and South.

Prices remain dull, the export trade is moderate, although the annual stock-taking at Odessa, made the last of the year, shows that the stocks, principally the old wheat of 1888, are about 40 per cent. greater than heretofore supposed.

INDIA.

The first reports from some of the largest wheat-producing provinces show a general falling off from the acreage of last year, which produced a small crop, *i. e.*, 6,465,000 tons as against 7,148,000 tons in 1888. It is naturally expected that the yield of 1890 will show a substantial reduction from the short crop of 1889.

Punjab.—The estimated area sown with wheat by November 30, 1889, was 6,670,400 acres against 6,776,000 acres in 1888, or a falling off of 3.6 per cent. Rain was much wanted.

Bombay presidency.—Season late in places; sowing still continuing, hence area details are incomplete.

Guzerat.—Reported area 250,000 acres; considerably below average, but slightly above last year. Condition fair, but injury from want of moisture apprehended.

Guzerat States.—Reported area 200,000 acres; shows a general decrease, which is attributed to locusts and deficient rain for sowing. Condition fair.

Deccan.—Reported area 875,000 acres; considerably below average and last year. In north Deccan experience of last year's poor crop and

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favorable season for cotton have reduced wheat area. In south Deccan excessive rains retarded sowing.

Karnatak.—Reported area 500,000; below average and last year. Condition good. These remarks apply to the native States, where the area is estimated at 100,000 acres.

Scinde.—Area nearly 300,000 acres, exclusive of Hyderabad, for which figures have not been received. Except in Upper Scinde frontier increase in area is general and due to favorable inundations of the Indus. Condition good. [N. B.—The acreage estimated above shows a reduction of nearly 25 per cent. on the whole compared with last year.]

North-West Provinces and Oudh.—The area is put at about 6 per cent. less than last year owing to the absence of rain. The prospects are good on irrigated lands but bad on unirrigated.

Berar.—Acreage less than last year; decrease due to season being favorable for cotton planting.

NOTES ON FOREIGN AGRICULTURE.

[Reports of United States consular officers.]

CADIZ, SPAIN.—Consul Turner, in a report under date of December 29, 1889 states that the continued drought then existing in that consular district was without precedent. Fields of grain have withered away; over large areas resowing will be necessary after the spring rain-fall. Up to that date the rainy season, generally beginning in September and reaching its height in December, had not yet set in. Spanish farmers were very much discouraged as the outlook forecasts an extremely short grain crop. As an evidence of the severity of the drought he states that the bishop of Madrid has ordered that prayer be offered in all of the churches of his diocese for the cessation of the drought.

GLASGOW, SCOTLAND.—L. W. Brown, United States consul, under date of December 19, 1889, submits a report upon the condition of agriculture in his district during the past fall and present winter up to that date. He states that during the fall months the weather was remarkably mild, and that the temperature for November and December was more like that ordinarily experienced during September and October. The result of this mild season has been very favorable to all branches of rural industry, and, should spring set in at the usual time, a very decided saving will be effected in the cost of feeding herds and flocks during the months for which pasturage is not available. Up to that time pastures were green and a large portion of the stock of the district had not been put into winter quarters. In no recent year has pasturage been available so late, and it is stated that frequently young cattle still grazing are in better condition than at the same date in other years when housed and fed.

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He notes the arrival of a small consignment of live sheep from the Argentine Republic, whose condition upon landing left nothing to be desired. This venture was the first and was a success, so far as the possibility of such a trade is concerned, and if it has been a success financially, South American mutton may yet be as much used in that market as is that from New Zealand. This consignment was slaughtered on landing, and the mutton was considered quite as good as the best Scotch mutton. During the past fiscal year the trade in American sheep in that consular district was revived, several thousand finding a market there. This South American venture, if entirely successful, brings a new competitor into the field.

The stand of wheat is reported as "fine as ever appeared above the clod." The crop of last year was medium and present prices rule low. The potato crop of 1889 was unusually small, and the expected demand from America not having been realized, prices are low. A general summing up of the situation at that date indicates a favorable prospect for the production of cereals, meats, and other products entering into competition with the products of the American farmers.

A second report from the same officer under date of January 14, 1890, notes a continuation of the mild, balmy weather experienced during December. Farm work has suffered no interruption, but farmers appear to wish for frost, claiming that it is necessary to soften the soil and give it the proper moisture. Potatoes are reported as sprouting in the pit, turnips as showing leaves. Root crops of last year were very large and the market is glutted at unsatisfactory prices. Since the date of his previous report there have been several outbreaks of pleuropneumonia in different parts of Scotland. The Government is energetically stamping out the disease, and numbers of cattle have been slaughtered.

MARSEILLES, FRANCE.—Consul Charles B. Trail, in a communication under date of January 7, 1890, states that the total wheat product of France for 1889 amounted to 110,000,000 hectoliters, being 5,000,000 hectoliters above the average yearly crop. He states that the annual consumption amounts to about 120,000,000 hectoliters, so that, in addition to the crop of 1889, an exceptionally good year, 10,000,000 hectoliters must be imported from abroad to make good the deficiency.

OTTAWA, CANADA.—Consul General Lay, in a letter under date of January 24, 1890, sends the following general review of the agricultural results in Canada during 1889, soon to be published in an agricultural report of the Dominion.

Agriculture, 1889.

In the province of Quebec most of the crops are reported as fully up to the average; the hay harvest has been an abundant one. In Ontario the yield of hay, roots, and Indian corn has in general been satisfactory, but in many districts cereals have suffered from rust to an extent sufficient to cause a material diminution, both in the volume and weight of the yield. Small fruits were abundant in eastern Ontario, but in the

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western part of the provinces they suffered from spring frosts. The yield of the larger fruits was light, but the quality has been above the average. The grain crops in most parts of the maritime province are regarded as satisfactory, although some sections have suffered from rust. Hay has yielded abundantly, and the roots have been generally good. In Manitoba and the Northwest Territories the season has been on the whole unusually dry, and while in some districts, where local rains have occurred, the crops have been good, the general results are much below the average. British Columbia has been favored with excellent crops, the yield in all classes of agricultural products being abundant and of good quality.

PIEDRAS NEGRAS, MEXICO.—Consul Fechét, in a report dated January 11, 1890, states that no agricultural statistics or reports upon crop conditions are published in his district. In that section of Mexico, irrigation is necessary in all cultivation. During the past year, the crops in the district, cotton especially, yielded well, and high condition was maintained through out the season. The estimated average yield was, for cotton, from 250 to 330 pounds per acre. Oats, 60 bushels; wheat, 30 bushels, and corn, 50 bushels. The quality was generally good, an abundant supply of water for irrigation being present. The cotton raised in the region around the consulate is claimed as equal to the best Texas grades and superior to the fiber from the interior of Mexico. After harvest, corn was valued at 66 cents per bushel; wheat and barley at $1, and cotton at 13 cents per pound. The consul states that there is a slow but steady tendency towards improved methods and the use of better agricultural implements. Dealers in American farm implements assure him that their sales grow larger each year. The most marked change in crop distribution, is in the case of cotton, the acreage devoted to that crop being steadily increased. Its cultivation was first attempted in 1888 and in 1889, 2,000 acres were grown in that district with a prospect that this acreage will be doubled during the coming year.

PORT SARNIA, CANADA.—Consul J. S. Farrar, in a communication dated January 22, 1890, states that field wheat in that district is in fine condition. It is the principal crop and the area sown for the present year is about 30,000 acres, a falling off of 25 per cent. from last year. This decline is accounted for partly by the fact that farmers are paying more attention to the raising and breeding animals for sale, requiring a larger acreage of pasturage than heretofore. Market quotations of leading farm products are given as wheat, 75 to 80 cents per bushel; oats, 28 cents; corn, 45 cents; barley, 38 cents; potatoes, 50 cents; butter, 20 cents per pound, and wool, 22 cents per pound.

ROME, ITALY.—Consul-General Bourn transmits a report dated December 20, 1889, giving the estimated production of various crops of the Kingdom for 1889, based upon latest telegraphic reports available at that date. The following statements taken from his summary show the production of corn, wheat, oats, rice, and hemp during the year 1889, as compared with the average production of these products from 1879 to 1883:

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Italy—crops 1889.

Products.	Average, 1879–1883.	Crop of 1889.	Average per cent.
Corn ..... bushels..	84, 310, 070	75, 151, 471	89. 14
Wheat ..... do....	132, 247, 079	103, 832, 354	78. 51
Oats ..... do....	18, 889, 238	14, 887, 511	78. 81
Rice ..... do....	20, 761, 136	19, 450, 211	93. 69
Hemp ..... tons..	85, 268	76, 376	89. 57

From the same telegraphic reports he prepares an estimate of the wine crop of 1889 by districts, showing the aggregate product to be but little more than one-half of the average production during the period 1879 to 1883; the principal causes for the failure of the crop were the unusual dampness of the season, hail-storms, and ravages of the *peronospora*. Of the aggregate production 7 per cent. was returned as of the very best quality, 51 per cent. as good, 37 per cent. as fair, and 5 per cent. as bad. His estimate by districts is as follows:

Wine—Italy, 1889.

Districts.	Average, 1879–1883.	Product of 1889.	Per cent. of average.
	Gallons.	*Gallons.*	
Piedmont	105, 763, 385	33, 996, 037	32. 14
Lombardy	45, 968, 222	12, 032, 944	26. 18
Venice	36, 664, 154	8, 471, 932	23. 11
Tuscany	81, 203, 216	40, 367, 818	49. 71
Southern Adriatic	131, 664, 970	75, 441, 669	57. 30
Southern Mediterranean	138, 812, 460	71, 452, 702	51. 46
Sicily	203, 469, 017	184, 388, 018	90. 62
Sardinia	25, 814, 692	17, 326, 910	67. 12
Liguria	13, 364, 360	4, 739, 210	35. 46
Emilia	67, 910, 182	36, 289, 033	53. 44
Marches and Umbria	65, 379, 433	38, 460, 510	58. 83
Total	966, 711, 623	558, 431, 605	57. 77

[NOTE BY ED.—These totals somewhat exceed the aggregate of the items given, probably because an item for "all other" has been omitted.]

LIEGE, BELGIUM.—William S. Preston, United States consul, reports that the acreage of the principal crops of winter grains now growing in Belgium is about the same as that of the previous year. Condition up to the end of December was reported as favorable. The prices of various agricultural products in that district at the beginning of the present year were reported as follows, currency and measure being reduced to our standard:

	Price per bushel.
Wheat:	
Native	$1. 01
Foreign	. 96
Rye	. 75
Barley	. 67
Oats	. 45
Potatoes	. 39 to . 47

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JERUSALEM, PALESTINE.—Consul Gillman writes as follows concerning the agricultural implements in use and the general condition of agriculture and horticulture in that historic region:

The agricultural implements in use in Palestine are of the most primitive character. For the cultivation of the soil the wooden, one-handled plow, so commonly employed throughout the Orient, is almost the only implement used. This disturbs the soil for but a few inches in depth, and is drawn generally by oxen, though the ass and the buffalo are sometimes enlisted for this purpose, and, alas, occasionally even women. The plow mentioned is, of course, manufactured in the country; the use of any imported agricultural implements being confined to the few foreign colonies which have settled here, and which are chiefly German and Hebrew.

The chief agricultural and horticultural lands of Palestine are the extensive and fertile plains of Sharon and Philistia. Under proper culture those important tracts might be made much more productive. With their present treatment it is probable they do not yield more than half the crop they would otherwise produce. The valleys and plains in the neighborhoods of Jerusalem, Bethlehem, Hebron, and Nablous as well as the highly favored Valley of the Jordan, would all, with improved methods of cultivation, be of the highest importance agriculturally. Wheat, barley, doura, and sesame, with peas, beans, and lentils are the common crops of the country.

The orange culture at Jaffa has become an industry of great value. Of the 9,000 acres of cultivable land pertaining to the community, 3,000 acres are covered by orange groves and gardens; and these are all under irrigation. Among the other fruits produced are the lemon, lime, citron, date, peach, apricot, grape, fig, pomegranate, plum and melon, as well as the olive. All the ordinary garden vegetables are also grown here of good quality and in abundance. Of late, the vine especially, is receiving increased attention and care; extensive vineyards are planting; and as here the vine is free from the diseases and insect pests of other countries, and the soil and climate are peculiarly adapted to it, this should be one of the most flourishing wine-producing countries in the world. The olive does best in the hill country, and generously responds with abundant crops to the slightest care.

The domestic animals in use are the cow, sheep, goat, camel, horse, and donkey, and occasionally the buffalo, and very rarely, the hog. The first mentioned belongs generally to the small black breed of cattle, in size being nearly as small as that of Florida. Except during and immediately succeeding the rainy season, the meats are not good.

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MEAT CONSUMPTION IN BERLIN.

The Statistical Year Book of the city of Berlin for the years 1886 and 1887 contains an estimate of the fat cattle brought to market and the quantity of meat consumed in the city of Berlin, with a calculation of the consumption per capita, on the authority of the municipal office charged with the duty of making such records. The police department makes similar records in which the calves are nearly the same, the swine 2 or 3 per cent. more, and the sheep and cattle 12 to 15 per cent. more.

The following table includes the estimated number of animals brought to market and the number slaughtered in Berlin and in the suburbs within a limit of five miles, the remainder of the receipts being shipped beyond such limits:

Animals.	Number brought to market.		Slaughtered in municipal abattoir.		Slaughtered in the environs of Berlin.		Total.	
	1886.	1887.	1886.	1887.	1886.	1887.	1886.	1887.
Cattle	172,538	187,772	107,304	128,803	15,666	9,611	122,970	138,414
Calves	131,551	137,574	86,352	96,207	43,151	39,660	129,503	135,867
Hogs	499,150	567,724	304,925	402,797	95,100	40,279	400,025	443,076
Sheep	756,967	688,116	205,132	271,018	147,428	93,039	352,560	364,057

The average weight of the animals slaughtered is stated as follows:

Animals.	1886.		1887.	
	Kilograms.	*Pounds.*	*Kilograms.*	*Pounds.*
Cattle	288	635	281	619
Calves	50	110	50	110
Hogs	95	209	100	220
Sheep	21	46	21	46

On this basis the yield of meat from animals slaughtered at the municipal abattoir and in the immediate enviorons is made in pounds as follows:

	1886.			1887.		
	Slaughtered in—		Total.	Slaughtered in—		Total.
	Municipal abattoir.	Environs.		Municipal abattoir.	Environs.	
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Beef	68,129,971	9,946,732	78,076,703	79,792,505	5,953,944	85,746,449
Veal	9,518,581	4,756,535	14,275,116	10,604,897	4,371,722	14,976,619
Pork	63,862,577	19,917,459	83,780,036	88,800,627	8,879,908	97,680,535
Mutton	9,490,914	6,825,415	16,322,329	12,547,212	4,307,389	16,854,601
Total	151,008,043	41,446,141	192,454,184	191,745,241	23,512,963	215,258,204

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These figures, however, do not furnish the total consumption of the kinds of meat specified, as the animals slaughtered in the environs supply only a part of the meat brought into the city from outside its limits.

The freshly slaughtered carcasses brought to the Berlin markets from outside the city in the civil year 1887–'88 comprised about 25,840 beeves, averaging 240 kilograms (529 pounds) each, 143,955 calves, averaging 35 kilograms (77 pounds); 99,691 hogs, averaging 85 kilograms (187 pounds), and 91,610 sheep, averaging 21 kilograms (46 pounds). These carcasses would make a total of 21,637,570 kilograms (47,702,187 pounds) of meat; and on the assumption that the freshly slaughtered carcasses brought in during the calendar year 1887 bore the same ratio to the rest of the meat supply as during the civil year 1887–'88, the quantity of meat so brought in during the calendar year is stated at 21,140,656 kilograms (46,606,690) pounds. The quantity brought in in the same manner in the calendar year 1886 is stated at 34,265,336 kilograms (75,541,360 pounds).

Of poultry and animals (other than game) not included above, there were brought in by railroad 790,153 head in 1886 and 796,010 head in 1887, furnishing an estimated total of about 3,160,612 kilograms (6,967,885 pounds) of meat in 1886 and 3,184,040 kilograms (7,019,535 pounds) in 1887. Other meat and fat brought in by railroad are estimated at 5,151,500 kilograms (11,356,997 pounds) for 1886 and 5,724,000 kilograms (12,619,130 pounds) for 1887.

Of horses slaughtered and admitted to consumption the number was 5,558 in 1886 and 5,820 in 1887, and the quantity of meat obtained from them is estimated at 138,950 kilograms (306,329 pounds) for the former year and 145,500 kilograms (320,769 pounds) for the latter.

From these data is made up the following tabular statement of the meat consumption of Berlin as estimated in the municipal Jahrbuch:

Kinds of meat.	1886.		1887.	
Beef, veal, pork, and mutton:	*Kilograms.*	*Pounds.*	*Kilograms.*	*Pounds.*
From the municipal abattoir	68,496,799	151,008,043	86,975,071	191,745,242
In freshly slaughtered carcasses from outside the city	34,265,336	75,541,360	21,140,656	46,606,690
Poultry, etc., brought in by rail	3,160,612	6,967,885	3,184,040	7,019,535
Other meat and fat brought in by rail	5,151,500	11,356,997	5,724,000	12,619,130
Slaughtered horses admitted to consumption (meat of)	138,950	306,329	145,500	320,769
Total quantity of meat	111,213,197	245,180,614	117,169,267	258,311,366

The consumption for the year 1885 is stated at 103,346,511 kilograms (227,837,718 pounds).

The mean population is stated at 1,293,482 for 1885, 1,337,171 for 1886, and 1,386,562 for 1887; hence the average supply per capita for these years was as follows: 1885, 79.9 kilograms (176.1 pounds); 1886, 83.17 kilograms (183.36 pounds); 1887, 84.5 kilograms (186.3 pounds).

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The above figures do not include game or poultry brought into the city by private conveyance, in respect to which there are no statistics.

The quantities of fish brought into the city by water and rail respectively exceeded the quantities taken out by the amounts shown in the following table, which may therefore be taken as showing the quantities remaining for consumption:

Year.	By water.		By railroad.		Total.	
	Kilograms.	*Pounds.*	*Kilograms.*	*Pounds.*	*Kilograms.*	*Pounds.*
1885	6,080,000	13,403,968	13,511,500	29,787,453	19,591,500	43,191,421
1886	6,692,500	14,754,286	15,454,000	34,069,888	22,146,500	48,824,174
1887	6,392,060	14,091,803	13,961,000	30,778,421	20,353,000	44,870,224

This makes the consumption of fish per capita 15.15 kilograms (33.40 pounds) for 1885, 16.56 kilograms (36.50 pounds) for 1886, and 14.68 kilograms (32.36 pounds) for 1887.

DISEASES OF ANIMALS IN GERMANY IN 1887.

The last number of the Statistical Year Book of the German Empire contains a statement on the subject indicated above, condensed from the Report of the Imperial Health Office on the spread of animal pests within the Empire in 1887. The principal points comprised in the statement are presented below:

Diseases.	Species of animals affected.	Number of animals affected.	Number in every 10,000.	Number of animals that have died or been killed. *a*
Glanders, including farcy	Horses	1,228	3.49	1,498
Foot and mouth disease	Cattle	*b*12,723	8.06	.....
Do	Sheep	13,521	.....	.....
Do	Goats	879	.....	.....
Do	Swine	4,745	.....	.....
Pleuro pneumonia	Cattle	2,156	1.37	3,098
Vesicular eruptions	....do	5,233	3.31	.....
Do	Horses	178	.....	.....
Scab	Sheep	*b*287,026	149.57	.....
Do	Horses	439	.....	.....
Do	Asses	1	.....	.....
Black quarter	Cattle	301	0.19	294
Do	Horses	8	.....	8
Rabies	Dogs	423	.....	*c*1,240

a Including animals killed on account of suspected infection.

b On newly affected premises.

c Killed under police orders on account of suspected infection. Of other animals there were 6 horses, 29 cattle, 6 sheep, 1 goat, 17 swine, and 4 cats which died of rabies or were killed because affected with it. Eight cats were killed on account of suspected infection.

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RAILROAD CONSTRUCTION IN 1889.

The number of miles of new track laid during the year 1889 was not far from 5,250 miles, or about 75 per cent. of the construction of 1888. Nearly 60 per cent. of this amount was constructed east of the Mississippi River, and 40 per cent. west. The construction for 1888 was about equally divided—east and west of the Mississippi. The States showing the greatest activity in construction during 1889 were Virginia, North Carolina, Georgia, and Michigan east of the Mississippi, and Texas, Indian Territory, and Washington on the west. There are at least two significant facts shown in the construction of new mileage of railroads during the past three years. First, there have been but few strictly parallel lines built, which shows that the construction has been for the real benefit and wealth of the community, and not for the one purpose of opposition or competing with other lines regardless of the wants or requirements of the individual, community, or State. Secondly, the location of this new mileage is of importance. The Southern States have shown a marked degree of enterprise in this direction, as will be seen from the following statement, showing the construction of new mileage in nine Southern States from 1885 to 1889, inclusive, and the total construction in each State for that period:

States.	1885.	1886.	1887.	1888.	1889.	Total.
Virginia	15.51	30.50	59.95	133.7	257.1	499.76
North Carolina	57.50	159.90	177.15	160.2	259.5	814.25
South Carolina	100.00	125.50	90.45	222.5	43.5	581.95
Georgia	133.75	149.67	230.28	446.5	328.9	1,289.10
Florida	272.34	295.81	211.68	141.8	183.3	1,104.93
Alabama	20.40	44.56	308.20	337.7	142.0	852.86
Mississippi	82.40	154.72	96.41	87.5	169.0	590.12
Louisiana	55.00	9.50	95.60	60.2	122.0	342.30
Texas	190.50	578.96	1,165.42	306.2	282.7	2,523.78

The following table shows the construction of new mileage for the past five years in those States lying west of the Mississippi River, with the exception of Texas, which is classed with the Southern States in the above statement:

States and Territories.	1885.	1886.	1887.	1888.	1889.	Total.
Louisiana	55.00	9.50	95.60	60.20	122.00	342.30
Missouri	259.02	126.24	516.99	268.40	100.20	1,270.85
Arkansas	41.08	123.00	157.65	99.20	62.00	482.93
Kansas	260.37	1,450.52	2,183.44	529.30	60.90	4,484.53
Colorado	12.00	29.50	864.80	267.80	81.40	1,255.50
New Mexico	3.30	41.60	0.80	83.00	.....	128.70
Indian Territory	.....	81.22	446.31	101.50	174.10	803.13
Iowa	48.36	425.16	378.57	42.20	90.30	984.59
Minnesota	140.88	520.91	201.67	302.80	144.00	1,310.26
Nebraska	218.95	718.10	1,188.37	175.20	40.10	2,335.72
Dakota	118.50	679.98	759.76	151.30	82.20	1,791.74
Wyoming	.....	127.79	131.91	24.10	47.00	330.80
Montana	.....	15.80	616.78	112.30	149.50	894.38
Washington	.....	171.50	94.30	320.50	398.00	984.30
Oregon	100.20	63.90	50.50	119.50	34.00	368.10
California	149.55	252.77	425.40	519.60	120.70	1,468.02
Idaho	5.00	13.60	39.50	8.00	79.10	145.20
Arizona	.....	83.12	70.96	36.20	.....	190.28
Utah	4.00	.....	11.06	16.00	46.00	77.06

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The figures in the above two tables are taken from "Poor's Manual of Railroads" for 1888, for the years 1885 to 1887 inclusive, and for 1888 and 1889 from the Railway Age of Chicago, Vol. 14, No. 7, and Vol. 15, No. 3.

According to "Poor's Manual of Railroads" for 1888 the aggregate mileage of the railroads in the United States at the close of the year 1887 was 149,913 miles. Taking our estimate for 1888, 7,000 miles, and with the approximation of 5,250 miles for 1889, we have a grand total at the close of the year 1889 of 162,163 miles.

To show the progress of railway construction of the United States for the past ten years the following table is presented:

Years.	Mileage United States.	Miles constructed.	Per cent. of mileage.	Years.	Mileage United States.	Miles constructed.	Per cent. of mileage.
1880	93,349	6,876	7.4	1885	128,987	3,608	2.8
1881	103,145	9,796	9.5	1886	137,986	9,000	6.5
1882	114,713	11,568	10.1	1887	149,913	13,081	8.7
1883	121,454	6,741	5.6	1888	156,913	*7,000	4.5
1884	125,379	3,825	3.1	1889	162,163	*5,250	3.2

*Estimated.

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TRANSPORTATION RATES.

FREIGHT RATES RAILROAD COMPANIES.

The returns from the several railroad companies for January 1 show no important changes in the rates upon agricultural products and farmers' supplies as compared with the rates for December 1, as will be seen from the following list of companies reporting no important change:

Pennsylvania lines (west of Pittsburgh); Pennsylvania Railroad Company; New York Central and Hudson River Railroad; Lake Shore and Michigan Southern Railway; New York, Lake Erie and Western Railway; New York, Chicago and St. Louis Railroad; Chicago and Atlantic Railway; Delaware, Lackawanna and Western Railroad (east and west bound); Chicago and Alton Railroad; Chicago and Northwestern Railway; Chicago, St. Paul, Minneapolis and Omaha Railway; Chesapeake, Ohio and Southwestern Railroad; Louisville and Nashville Railroad; Wabash Railroad Company.

TRANSATLANTIC RATES.

Reports from the several ocean steam-ship companies January 1, as compared with those for December 1, show that the rates from New York to Liverpool are somewhat lower upon most articles. On grain—wheat and corn—the rates seem to be very firm and a trifle higher.

The following statement shows the rates reported January 1 as compared with those reported December 1:

OCEAN STEAM-SHIP COMPANIES.

Articles.	White Star Line, New York to Liverpool.		Inman Line, New York to Liverpool.	
	December 1.	January 1.	December 1.	January 1.
Wheat ..... per bushel..	$0.10	$0.11	$0.10	$0.11
Corn ..... do ..	.10	.11	.10	.11
Flour ..... per barrel..	.72	.72	.72	.60
Flour (in sacks) ..... per 2,240 pounds..	4.20	4.80	5.40	4.80
Bacon ..... do....	8.40	7.80	8.40	7.80
Lard ..... do....	8.40	7.80	8.40	7.20
Cheese ..... do....	9.60	8.40	9.60	8.40
Tallow ..... do....	7.20	6.00	8.40	7.80
Beef ..... per tierce..	1.44	1.32	1.56	1.44
Pork ..... per barrel..	.96	.84	1.08	.96
Oil-cake ..... per 2,240 pounds..	3.60	4.20	4.80	4.80
Cotton ..... per pound..	.00⅛	.00 7/16	.00⅛	.00 7/16
Hops ..... do ..	.01	.00⅞	.01⅛	.01⅛
Tobacco ..... per hogshead..	7.20	7.20	8.40	7.20
Rosin ..... per 280 pounds..	.72	.72	.96	.84
Lard (in small packages) ..... per 2,240 pounds..	9.60	9.60	9.60	9.60
Tobacco (in cases) ..... per 40 cubic feet..	4.80	4.80	6.00	4.80
Apples ..... per barrel..	.72	.72	.72	.72
Hams ..... per 2,240 pounds..	8.40	7.80	8.40	7.80
Butter ..... do....	12.00	9.60	10.80	10.80
Measurement per ton (40 cubic feet)	4.80 to 7.20	4.80 to 7.20	6.00	4.80 to 6.00
Primage ..... per cent..	5	5	5	5

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OCEAN STEAMSHIP COMPANIES—Continued.

Articles.	Guion Line, New York to Liverpool.		Anchor Line, New York to Glasgow.	
	December 1.	January 1.	December 1.	January 1.
Wheat ..... per bushel	$0.10	$0.10	$0.12	$0.13
Corn ..... do	.10	.10	.12	.13
Flour ..... per barrel	.72	.72	.72	.72
Flour (in sacks) ..... per 2,240 pounds	.....	.....	5.10	5.10
Bacon ..... do	8.40	7.80	8.40	8.40
Lard ..... do	8.40	6.00	8.40	8.40
Cheese ..... do	9.60	8.40	9.60	9.60
Tallow ..... do	.....	6.00	7.20	7.20
Beef ..... per tierce	1.56	1.44	1.56	1.56
Pork ..... per barrel	1.08	.96	1.02	1.02
Oil-cake ..... per 2,240 pounds	.....	.....	5.10	5.10
Cotton ..... per pound	.00 7/16	.00 7/16	.....	.....
Hops ..... do	.01 1/2	.01 1/2	.01	.01
Tobacco ..... per hogshead	8.40	.....	6.60	6.00
Rosin ..... per 280 pounds	.....	.....	.72	.72
Lard (in small packages) ..... per 2,240 pounds	9.60	9.60	9.60	9.60
Tobacco (in cases) ..... per 40 cubic feet	6.00	4.80	6.00	6.00
Apples ..... per barrel	.72	.72	.84	.84
Hams ..... per 2,240 pounds	8.40	7.80	8.40	8.40
Butter ..... do	10.80	9.60	9.60	9.60
Measurement per ton (40 cubic feet)	4.80 to 6.00	4.80	4.80 to 6.00	4.80 to 6.00
Primage ..... per cent	5	5	5	5

Articles.	North German Lloyd Steam-ship Company, New York to Bremen.		General Transatlantic Company, New York to Havre.	
	December 1.	January 1.	December 1.	January 1.
Wheat ..... per 100 pounds	$0.24	$0.24	.....	.....
Corn ..... do	.24	.24	.....	.....
Flour ..... per barrel	.70	.72	$1.25	$1.25
Flour (in sacks) ..... per 100 pounds	.27 1/2	.30	.40	.40
Bacon ..... do	.30	.30	.....	.....
Lard ..... do	.36	.36	.40 to .42 1/2	.40
Cheese ..... do	.42	.42	.....	.40
Tallow ..... do	.36	.36	.40 to .42 1/2	.40
Beef ..... per tierce	1.50	1.50	1.50	1.50
Pork ..... per barrel	1.20	1.20	1.25	1.25
Oil-cake ..... per 100 pounds	.30	.30	.....	.40
Cotton ..... per pound	*.00 2/16	*.00 2/16	.00 2/16 to .00 3/8	.00 1/2
Hops ..... do	*.01	*.01	.....	.....
Tobacco ..... per hogshead	7.50	7.50	9.00	9.00
Rosin ..... per 280 pounds	1.00	.75	.....	.....
Lard (in small packages) ..... per 100 pounds	.42	.42	.45 to .60	.50 to .70
Tobacco (in cases) ..... per case	1.80	1.50	†10.00	†10.00
Apples ..... per barrel	1.00	1.00	1.20	1.20
Hams ..... per 100 pounds	.36	.36	.....	.40
Butter ..... do	.60	.60	.....	.40
Measurement per ton (40 cubic feet)	4.80 to 10.00	4.80 to 10.00	10.00	10.00
Primage ..... per cent	.....	.....	5	5

* And 5 per cent. primage.

† Per 40 cubic feet

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NORTHERN PACIFIC RAILROAD.

[Rates in effect January 1, 1890.]

Articles.	Between St. Paul or Duluth and—				
	Brainerd, Minn.	Fargo, Dak.	Bismarck, Dak.	Glendive, Mont.	Livingston, Mont.
Apples:					
Dried, in barrels, C. L ..... per 100 lbs..	$0.25	$0.40	$0.72	$0.94	$1.40
In boxes or barrels, L. C. L ..... do....	.32	.52	.84	1.06	1.65
Bacon, in barrels or boxes, C. L ..... do....	.20	.32	.60	.83	1.20
L. C. L ..... do....	.25	.40	.72	.94	1.40
Beef, pickled, C. L ..... do....	.20	.32	.60	.83	1.20
L. C. L ..... do....	.25	.40	.72	.94	1.40
Butter, in wood or tin, C. L ..... do....	.32	.52	.84	1.06	1.65
L. C. L ..... do....	.42	.68	1.02	1.26	2.05
Cheese, in boxes or casks, C. L ..... do....	.32	.52	.84	1.06	1.65
L. C. L ..... do...	.42	.68	1.02	1.26	2.05
Fertilizers, except guano, N. O. S., C. L ..... do....	.10	.16	.24	.42	.58
N. O. S., L. C. L ..... do....	.25	.40	.72	.94	1.40
Flour:					
C. L ..... do....	.12	.16	.27	.52	.68
In cotton sacks, O. R., L. C. L ..... do....	.25	.40	.72	.94	1.40
Corn and oats, C. L ..... do	.12	.16	.27	.52	.60
Grain, L. C. L ..... do	.25	.40	.72	.94	1.40
Hams:					
Canvas-covered, in bulk, C. L ..... do ..	.20	.32	.60	.83	1.20
In bundles or boxes, L. C. L ..... do	.25	.40	.72	.94	1.40
Hogs, dressed, O. R., C. L ..... do	.25	.40	.72	.94	1.40
O. R., L. C. L ..... do	.42	.68	1.02	1.26	2.05
Lard:					
C. L ..... do	.25	.40	.72	.94	1.40
In barrels or cans, boxed, L. C. L ..... do	.25	.40	.72	.94	1.40
Lumber:					
C. L ..... do....	.11	.18½	.28	.45	.55
L. C. L ..... do....	.25	.40	.72	.94	1.40
Pork, packed, C. L ..... do	.20	.32	.60	.83	1.20
L. C. L ..... do	.25	.40	.72	.94	1.40
Potatoes:					
C. L ..... do	.12	.16	.27	.52	.60
In sacks or barrels, L. C. L ..... do	.25	.40	.72	.94	1.40
Salt:					
C. L ..... do	.12	.20	.30	.52	.68
L. C. L ..... do	.25	.40	.72	.94	1.40
Wheat:					
C. L ..... do ...	.12	.16	.27	.59	.68
In bags, L. C. L ..... do ...	.25	.40	.72	.94	1.40
Wool, in sacks, C. L ..... do	.42	.68	1.02	1.26	2.05
L. C. L ..... do ...	.42	.68	1.02	1.26	2.05
Cattle in ordinary cars, C. L ..... per car..	23.50	35 50	45.50	*65.00	*100.00
Horses in ordinary cars, C. L ..... do....	26.50	39.50	54.50	*75.00	*110.00
Sheep in ordinary cars, C. L ..... do....	23.50	35.50	45.50	*65.00	*100.00
Hogs in ordinary cars, C. L ..... do	23.50	35.50	45.50	*65.00	*100.00

C. L.—Car-load. L. C. L,—Less than car-load. O. R.—Owner's risk. * East bound only.

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MICHIGAN CENTRAL RAILROAD.

[Rates in effect January 1, 1890, in cents per 100 pounds.]

Articles.	To Chicago from—						
	Joliet.	Lansing.	Saginaw City and Bay City.	Mackinaw City.	Jackson.	Grand Rapids.	Kalamazoo.
Apples, green (150 pounds per barrel), O. R., P. P.:							
C. L.	7	13	15	23	12½	12	11
L. C. L.	14	22	25	35	20½	19½	18
Bacon, in barrels or casks:							
C. L.	7	13	15	23	12½	12	11
L. C. L	9	15	17	27	14½	14	13
Beef, in barrels:							
C. L.	7	13	15	23	12½	12	11
L. C. L.	9	15	17	27	14½	14	13
Butter, in wood:							
C. L.	14	22	25	35	27	26	24
L. C. L.	18	29	34	47	27	26	24
Cheese, in boxes:							
C. L.	14	22	25	35	20½	19½	18
L. C. L	14	22	25	35	20½	19½	18
Cotton, compressed in bales:							
C. L.	9	15	17	27	14½	14	13
L. C. L.	9	15	17	27	14½	14	13
Fertilizers, in bags or barrels:							
C. L.	6	9	11	21	9	9	8½
L. C. L.	9	15	17	27	14½	14	13
Flour:							
In barrels, 125 barrels and over	6	9	11	21	9	9	8½
L. C. L.	7	13	15	23	12½	12	11
Grain, other than wheat:							
C. L. (minimum weight, 24,000 pounds).	6	9	11	21	9	9	8½
L. C. L.	7	13	15	23	12½	12	11
Hams, in boxes, barrels, or casks:							
C. L.	7	13	15	23	12½	12	11
L. C. L	9	15	17	27	14½	14	13
Hogs, dressed:							
C. L.	22	29	34	47	20½	19½	18
L. C. L.	22	29	34	47	27	26	24
Lard, in barrels or boxes:							
C. L.	7	13	15	23	12½	12	11
L. C. L	9	15	17	27	14½	14	13
Lumber:							
C. L.	5	8	10	16	8	9	8
L. C. L.	9	15	17	27	14½	14	13
Pork:							
In barrels, C. L	7	13	15	23	12½	12	11
L. C. L	9	15	17	27	14½	14	13
Potatoes, O. R., P. P.:							
C. L.	7	13	15	23	12½	12	11
L. C. L	9	15	17	27	14½	14	13
Salt:							
C. L.	6	9	*20	21	*20	9	*20
In barrels, L. C. L	7	13	15	23	12½	12	11
Tobacco, unmanufactured, in casks or hogsheads:							
C. L	9	15	17	27	14½	14	13
L. C. L	9	15	17	27	14½	14	13
Wheat:							
C. L. (minimum weight, 24,000 pounds)..	6	9	11	21	9	9	8½
In barrels, L. C. L	7	13	15	23	12½	12	11
Wool, in bales or sacks:							
C. L.	22	32	37	55	20½	19½	18
L. C. L	22	32	37	55	30½	29½	26½
Cattle:							
C. L.	9½	12	16	27	12	14	12
L. C. L	22	32	37	55	30½	29½	26½
Horses:							
C. L.	12	22	25	35	21	21½	19½
L. C. L.	22	32	37	55	30½	29½	26½
Sheep, C. L. (minimum weight, S. D., 14,000 pounds; D. D., 18,000 pounds)	10½	12	19	27	12	14	12
Hogs, C. L. (minimum weight, S. D., 16,000 pounds; D. D., 22,000 pounds)	9½	12	15	27	11½	12	11

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. P. P.—Prepaid.
S. D.—Single-deck. D. D.—Double-deck. * Per barrel.

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MERCHANTS AND MINERS' TRANSPORTATION COMPANY.

[Rates in effect January 1, 1890.]

Articles.		Between Baltimore and—			
		Boston.	Savannah.	Norfolk.	Providence.
Apples	per barrel	$0.35	$0.25	$0.20	$0.35
Bacon	per 100 pounds	.15	.15	.10	.15
Beef	per tierce	.60	.60	.40	.60
Butter	per 100 pounds	.25	.25	.20	.25
Cheese	do	.25	.25	.20	.25
Cotton, compressed	per bale	1.00	1.00	.50	1.00
Fertilizers	per 100 pounds	.15	.15	.10	.15
Flour	per barrel	.25	.25	.12	.25
Hams	per 100 pounds	.15	.15	.10	.15
Hogs, dressed	do	.20	.20	.15	.20
Lard	do	.15	.15	.10	.15
Lumber	do	.15	.15	.15	.15
Pork	per barrel	.60	.60	.40	.60
Potatoes	do	.35	.25	.20	.35
Salt	per 100 pounds	.15	.15	.10	.15
Tobacco, unmanufactured, in hogsheads	per hhd	2.50	2.50	1.00	2.50
Wool	per 100 pounds	.30	.30	.30	.30
Wheat, corn, rye, oats, and barley	do	.12	.12	.10	.12
Cattle, O. R., released	each	15.00	15.00	5.00	15.00
Horses, O. R., released	do	20.00	20.00	5.00	20.00
Sheep, O. R., released	do	3.00	3.00	.50	3.00
Hogs, O. R., released	do	3.00	3.00	.50	3.00

O. R., Owner's risk.

NORWICH AND NEW YORK TRANSPORTATION COMPANY.

[Rates in effect January 1, 1890.]

Articles.		New York to—			New London.
		Boston.	Worcester.	Norwich.	
Apples	per barrel	$0.24	$0.25	$0.15	$0.15
Bacon	per 100 pounds	.12	.12	.10	.10
Beef	do	.17	.15	.12	.12
Butter	do	.20	.22	.15	.15
Cheese	do	.18	.18	.14	.14
Cotton	do	.11	.15	.12	.12
Fertilizers	do	.11	.14	.11	.11
Flour	do	.09	.11	.14	.14
Hams	do	.12½	.15	.12	.12
Hogs, dressed	do	.12½	.15	.12	.12
Lard	do	.12½	.15	.12	.12
Pork	do	.12½	.15	.10	.10
Potatoes	do	.12	.15	.12	.12
Salt	do	.10	.12	.10	.10
Tobacco, unmanufactured, in hogsheads	do	.14	.18	.16	.16
Wool, compressed	do	.18	.30	.14	.14
Wool, not compressed	do	.30	.33	.16	.16
Wheat, corn, rye, oats, and barley	do	.12	.15	.07	.07
Cattle, single	per head	10.00	11.00	4.00	4.00
Horses	do	10.00	11.00	4.00	4.00

O. R., Owner's risk.

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YAZOO AND TALLAHATCHIE TRANSPORTATION COMPANY.

[Rates in effect January 1, 1890.]

Articles.	Vicksburg, Miss., to—					
	All landings below Yazoo City.	Yazoo City.	Silver Creek and Tchula.	Riverside.	Greenwood.	Tallahatchie River.
Apples, green, in barrels ..... per bbl..	$0.25	$0.20	$0.25	$0.30	$0.25	$0.35
Apples and peaches, dried ..... per 100 lbs..	.12½	.10	.12½	.15	.12½	.17½
Bacon, packed ..... do....	.12½	.10	.12½	.15	.12½	.17½
Beef and pork ..... per bbl..	.35	.30	.37½	.50	.45	.55
Butter, in wood ..... per 100 lbs..	.15	.12½	.15	.17½	.15	.20
Cheese ..... do	.15	.12½	.15	.17½	.15	.20
Corn meal ..... per bbl..	.20	.17½	.25	.30	.25	.35
Cotton, in bales ..... per bale..	.75	.75	.75	.75	.75	1.00
Cotton-seed oil, C. L ..... per bbl..	.75	75	.75	1.00	1.00	1.25
Flour, in barrels ..... do	.25	.20	.25	.30	.25	.35
Fruit, dried, N. O. S ..... per 100 lbs..	.15	.12½	.15	.17½	.15	.20
Grain ..... do....	.12½	.10	.12½	.15	.12½	.17½
Hides, dry, loose, or in bundles ..... do....	.12½	.12½	.15	.17½	.15	.20
Hides, dry, in bales ..... do ..	.12½	.12½	.15	.17½	.15	.20
Hides green ..... do	.12½	.12½	.15	.17½	.15	.20
Lumber ..... per 1,000 ft..	4.00	4.00	5.00	6.00	6.00	6.00
Oranges and lemons ..... per 100 lbs..	.15	.15	.15	.15	.15	.20
Potatoes, in barrels ..... per bbl..	.20	.17½	.25	.30	.25	.35
Salt ..... per sack..	.25	.20	.25	.30	.25	.35
Tobacco, unmanufactured, in casks or hogsheads, per 100 pounds..	.30	.25	.30	35	.30	.40

C. L.—Car-load. N. O. S.—Not otherwise specified.

WINSOR LINE.

[Rates in effect January 1, 1890.]

Articles.	Providence to Philadelphia.	Articles.	Providence to Philadelphia.
Apples ..... per bbl..	$0.25	Lumber:	
Bacon and hams ..... per 100 lbs..	.15	Hard ..... per 1,000 ft..	$7.00
Beef and pork:		Soft ..... do	5.00
Per barrel	.40	Potatoes ..... per bbl..	.25
Per half-barrel	.25	Salt, in sacks ..... per 100 lbs..	.15
Butter ..... per 100 lbs..	.25	Tobacco, unmanufactured, in hhds.. do....	.20
Cheese ..... do....	.20	Wool, in sacks ..... do....	.17
Cotton ..... do....	.15	Wheat ..... per bush..	.08
Fertilizers ..... do....	.12½	Corn ..... do....	.06
Flour ..... per bbl..	.25	Rye ..... do....	.08
Hops ..... per 100 lbs..	.25	Oats ..... do....	.05
Hogs ..... do....	.15	Barley ..... per 100 lbs..	.20
Lard ..... do....	.18	Cattle ..... per head..	12.00
Lard, in barrels or tierces ..... do....	.15		

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CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY.

[Rates in effect January 1, 1890, in cents per 100 pounds.]

Articles.	From Chicago, Milwaukee, or Racine to—									
	Dubuque.	McGregor and Prairie du Chien.	Winona.	St. Paul and Minneapolis.	Red Wing.	Chamberlain.	Mitchell.	Yankton.	Sioux City.	Omaha.
Agricultural implements:										
C. L.	15	22	25	25	25	50	46	35	30	30
Box-cars, L. C. L.	46	56	60	60	60	125	100	90	75	75
Apples:										
140 barrels or more	15	20	20	20	20	45	40	32½	25	25
In barrels	20	37	40	40	40	80	70	50	40	40
Bacon, in barrels, boxes, or casks:										
C. L.	*12½	13	13	13	13	45	40	32½	18	18
L. C. L.	20	25	25	25	25	60	50	40	30	30
Beans:										
In sacks, C. L.	15	20	20	20	20	45	40	32½	25	25
Dried, in sacks, L. C. L.	29	37	40	40	40	80	70	50	40	40
Dried, in barrels, L. C. L.	20	25	25	25	25	60	50	40	30	30
Beef, pickled:										
C. L.	*12½	13	13	13	13	45	40	32½	18	18
L. C. L.	20	25	25	25	25	60	50	40	30	30
Butter, in wood or tin:										
C. L.	29	37	40	40	40	80	70	50	40	40
O. R., L. C. L.	37	47	50	50	50	110	90	75	60	60
Cheese, in boxes or casks:										
C. L.	29	37	40	40	40	80	70	50	40	40
L. C. L.	37	47	50	50	50	110	90	75	60	60
Cotton, pressed, in bales:										
C. L.	46	56	60	60	60	125	100	90	75	75
L. C. L.	46	56	60	60	60	125	100	90	75	75
Fertilizers:										
C. L.	8	11½	12½	13	13	22	21	18	16	16
Except guano, L. C. L.	20	25	25	25	25	60	50	40	30	30
Flour, in barrels:										
C. L.	10	12½	12½	12½	12½	32	28	28	25	25
L. C. L.	20	25	25	25	25	60	50	40	30	30
Grain, other than wheat:										
C. L.	10	12½	12½	12½	12½	28	25	24	20	20
L. C. L.	20	25	25	25	25	60	50	40	30	30
Hams:										
C. L.	*12½	13	13	13	13	45	40	32½	18	18
In boxes, L. C. L.	20	25	25	25	25	60	50	40	30	30
Hogs, dressed, O. R.:										
C. L.	20	25	25	25	25	60	50	40	30	30
L. C. L.	37	47	50	50	50	110	90	75	60	60
Lard, in barrels:										
C. L.	*12½	13	13	13	13	45	40	32½	18	18
L. C. L.	20	25	25	25	25	60	50	40	30	30
Lumber:										
Hard, C. L.	14	14	14	14	14	27½	23	22	20	16
Soft, C. L.	10	10	14	14	14	27½	23	22	20	13
Pork, packed:										
C. L.	*12½	13	13	13	13	45	40	32½	18	18
L. C. L.	20	25	25	25	25	60	50	40	30	30
Potatoes, in sacks and barrels:										
C. L.	10	12	12½	12½	12½	32	28	28	25	25
L. C. L.	20	25	25	25	25	60	50	40	30	30
Salt:										
C. L.	10	13	13	13	13	27	21	20	13	13
L. C. L.	20	25	25	25	25	60	50	40	30	30
Tobacco, unm'f'd, in hhds., C. L.	20	25	25	25	25	60	50	40	30	30
Wheat, C. L.	10	12½	12½	12½	12½	32	28	28	25	25
Wool, in bales compressed	29	37	40	40	40	80	70	50	40	40
Cattle, C. L.	16	16	20	25	25	37½	34	32	31	25
Hogs, C. L.	20	22	27	27	27	45	40	37½	35	25
Sheep, C. L.	20	22	27	27	27	45	40	37½	35	25
Horses, C. L.	17 6/10	17 6/10	22	27½	27½	41½	37 4/10	35 4/10	34 4/10	27½

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk.

* Minimum weight 24,000 pounds.

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ILLINOIS CENTRAL RAILROAD COMPANY.

[Rates in effect January 1, 1890, in cents per 100 pounds.]

Articles.	Between Sioux City and—	
	Chicago, Milwaukee.	Points on the east bank of the Mississippi River, East Clinton, Ill., to East Dubuque, Ill., both inclusive.
Agricultural implements:		
Except hand, C. L	30	22½
N. O. S., K. D., flat, in bundles, L. C. L	75	55
Apples, in barrels or boxes, O. R., P. P., or guaranteed:		
C. L	25	20
L. C. L	40	30
Bacon, hams, and shoulders, in boxes, barrels, or crates:		
C. L	18	13
L. C. L	30	25
Beans and peas, dried, in barrels or in bulk, C. L	25	20
Beef, pickled:		
C. L	18	13
L. C. L	30	25
Butter, in wood or tin, O. R.:		
C. L	40	30
L. C. L	60	40
Cheese, in boxes, tubs, or casks:		
C. L	40	30
L. C. L	60	40
Flour, in barrels:		
C. L	25	20
L. C. L	30	25
Fruit, dried, N. O. S., in cans, boxes, barrels, or sacks, released:		
C. L	30	25
L. C. L	40	30
Fruit, green, N. O. S., O. R., P. P., or guaranteed:		
C. L	40	30
L. C. L	75	55
Hides, dry:		
In bundles, L. C. L	75	55
C. L. (minimum weight 10,000 pounds)	60	40
Hides and sheep pelts, green, C. L	18	13
Hops, L. C. L	60	40
Lard:		
In crocks, buckets, boxes, barrels, or casks, C. L	18	13
In barrels or tierces, L. C. L	30	25
Lumber:		
Soft, C. L	*20	
(Except woods of value) L. C. L	30	25
Meats, fresh, including dressed hogs, C. L	23½	18½
Pork, packed:		
C. L	18	13
L. C. L	30	25
Potatoes:		
In sacks or barrels, O. R., C. L	20	15
In sacks or barrels, L. C. L	30	25
Sweet, O. R., L. C. L	40	30
Salt:		
In barrels or in bulk, C. L	13	9½
In sacks, boxes, or barrels, L. C. L	30	25
Tobacco, unmanufactured:		
In hogsheads or cases, L. C. L	30	25
In bales, C. L	60	40
Flax, millet, and hemp seed, C. L	27	20
Wheat, C. L	25	20
Corn, rye, oats, and barley, C. L	22	15
Wool:		
In sacks, L. C. L	60	40
Compressed in bales, L. C. L	40	30
Horses and mules, in ordinary cars, C. L	34 1/16	20 3/16
Cattle and calves, C. L	31	18½
Hogs, C. L	35	20
Sheep, C. L	35	20

*—From Chicago only. †—West bound.
C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified. K. D.—Knocked down. O. R.—Owner's risk. P. P.—Prepaid.

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TRANSPORTATION RATES.—FEBRUARY 1, 1890.

FREIGHT RATES—RAILROAD COMPANIES.

The returns February 1, as compared with those of January 1, show no changes in rates of freight via the several trunk lines Chicago to New York. In fact, no important changes are reported from any of the railroads, with the exception of those running between Chicago and the Missouri River points. Instead of quoting the rates as reported by the individual companies the following is taken from the circular No. 60 of the Western Freight Association (Southwestern Division) showing the rates from Kansas City and points named to Chicago upon cattle and fresh meat.

Taking effect January 30, 1890, the following rates and rules will govern:

[In cents per 100 pounds.]

Articles.	From Kansas City, Atchison, Leavenworth, and St. Joseph, to—		
	Chicago.	Peoria.	Mississippi River points.
Cattle and calves, C. L	*12½	12½	†7½
Fresh meat, C, L	18½	16	13½

* This rate will not apply via Chicago, St. Paul and Kansas City Railway.
† This rate will apply via the Wabash Railroad only on cattle forwarded in cars owned by that company. Not good via the Hannibal and St. Joseph, or Chicago, Burlington and Quincy Railroads.

The rates reported January first were as follows:

[In cents per 100 pounds.]

Articles.	From Kansas City, Atchison, Leavenworth, and St. Joseph to—		
	Chicago.	Peoria.	Mississippi River points.
Cattle and calves, C. L	18	13½	9½
Fresh meat, C. L	28½	21	18½

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The railroads comprising the southwestern division of the Western Freight Association are as follows:

Chicago and Alton Railroad.
Chicago, Burlington and Quincy Railroad.
Chicago, Milwaukee and St. Paul Railway.
Chicago, Rock Island and Pacific Railway.
Chicago, St. Paul and Kansas City Railway.
Chicago, Santa Fé and California Railway.
Hannibal and St. Joseph Railroad.
Iowa Central Railway.
Kansas City, Fort Scott and Memphis Railroad.
Kansas City, St. Joseph and Council Bluffs Railroad.
Missouri Pacific Railway.
St. Louis and San Francisco Railway.
St. Louis, Keokuk and Northwestern Railroad.
The Wabash Railroad.

The following transportation companies report no important changes in their rates since last published:

Pennsylvania Lines (west of Pittsburgh).
Pennsylvania Railroad Company.
Baltimore and Ohio Railroad.
New York Central and Hudson River Railroad.
Lake Shore and Michigan Southern Railway.
New York, Chicago and St. Louis Railway.
Chicago and Atlantic Railway.
New York, Lake Erie and Western Railway.
Delaware, Lackawanna and Western Railroad (east and west bound).
Chicago and Alton Railroad.
Michigan Central Railroad.
Northern Pacific Railroad.
Louisville and Nashville Railroad.
Chesapeake, Ohio and Southwestern Railroad.
Chicago and Northwestern Railway.
Chicago, St. Paul, Minneapolis and Omaha Railway.
Illinois Central Railroad.
Old Dominion Steam-ship Company.
Merchants and Miners' Transportation Company.
Portland Steam Packet Company.
St. Louis and Mississippi Valley Transportation Company.
Winsor Line.

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MOBILE AND OHIO RAILROAD COMPANY.

[Rates in effect February 1, 1890.]

Articles.	From St. Louis and East St. Louis to—					
	Hickman, Ky.	Memphis, Tenn.	Huntington, Miss.	Greenville, Miss.	Vicksburg, Miss.; Port Hickey, La.; Port Hudson, La.; Baton Rouge, La.;	New Orleans, La.; Mobile, Ala.
Agricultural implements, C. L. per 100 lbs.	$0.15	$0.15	$0.25	$0.25	$0.25	$0.25
Apples:						
Green or dried, C. L. do	.15	.15	.25	.25	.25	.25
Green, in barrels (150 pounds per barrel) L. C. L. per 100 lbs.	.18	.25	.35	.35	.35	.35
Bacon, hams, and shoulders, any quantity do	.18	.16	.28	.28	.28	.28
Beans, in barrels and sacks, C. L. do	.15	.15	.25	.25	.25	.25
Beans and peas, in boxes, C. L. do	.15	.15	.25	.25	.25	.25
Beef and pork, salted, in barrels per bbl.	.45	.50	.75	.75	.75	.75
Beef, dried, loose, or in sacks, boxes, bbls., casks, or crates, C. L. per 100 lbs.	.18	.16	.28	.28	.28	.28
Butter, in refrigerator cars do	.35	.50	.75	.75	.75	.75
Cheese, in refrigerator cars do	.30	.45	.65	.65	.65	.65
Cotton, in bales:						
Compressed per bale	.....	.....	.....	.....	*1.25	.....
Uncompressed do	.....	.....	.....	.....	*1.75	.....
Cotton-seed meal and oil-cake per 100 lbs.	.12	.12	.20	.20	.20	.20
Cotton-seed meal and oil-cake per ton	2.10	2.10	3.05	3.05	3.05	3.05
Fertilizers, C. L. do	2.10	2.10	3.05	3.05	3.05	3.05
Flour, in barrels per bbl.	.30	.30	.45	.45	.45	.45
Fruit, green or dried, C. L. per 100 lbs.	.15	.15	.25	.25	.25	.25
Grain do	.12	.12	.20	.20	.20	.20
Hides, dry, loose, or in bundles do	.40	.65	.90	.90	.90	.90
Hides, dry, in bales do	.25	.35	.50	.50	.50	.50
Hides, green, C. L. do	.18	.16	.28	.28	.28	.28
Hops, pressed, in bales do	.30	.45	.65	.65	.65	.65
Hops, in boxes do	.40	.65	.90	.90	.90	.90
Lard, in crocks, buckets, boxes, barrels, or casks, any quantity per 100 lbs.	.18	.16	.28	.28	.28	.28
Lumber, dressed, or common, C. L. do	.15	.15	.25	.25	.25	.25
Meal, corn, in barrels, any quantity per bbl	.28	.28	.43	.43	.43	.43
Meal, oat, in barrels, C. L. do	.30	.30	.45	.45	.45	.45
Meats, fresh, in refrigerator cars, C. L. per 100 lbs.	.25	.25	.45	.45	.45	.45
Meats, fresh, P. P., released, L. C. L. do	.30	.45	.65	.65	.65	.65
Potatoes, C. L. do	.15	.15	.25	.25	.25	.25
Potatoes, released, L. C. L. do	.18	.25	.35	.35	.35	.35
Salt, C. L. per bbl.	.23	.23	.25	.25	.25	.35
Salt, in sacks, L. C. L. per 100 lbs.	.18	.25	.35	.35	.35	.35
Tobacco, unmanufactured do	.20	.20	.27	.27	.27	.27
Vegetables, green or dried, C. L. do	.15	.15	.25	.25	.25	.25
Vegetables, N. O. S., P. P., or guarantied, released, L. C. L. per 100 lbs.	.30	.45	.65	.65	.65	.65
Wool, in bags do	.40	.65	.90	.90	.90	.90
Wool, N. O. S., pressed, in bales do	.30	.45	.65	.65	.65	.65
Poultry, live, in coops, C. L. per car	50.00	50.00	98.00	96.00	100.00	100.00
Cattle, C. L. do	40.00	40.00	85.00	85.00	85.00	85.00
Sheep, C. L. do	40.00	40.00	85.00	85.00	85.00	85.00
Hogs, C. L. do	40.00	40.00	85.00	85.00	85.00	85.00
Horses and mules, C. L. do	40.00	50.00	98.00	96.00	100.00	.....

* To New Orleans only.

C. L.—Car-load. L. C. L.—Less than car-load. P. P.—Prepaid. N. O. S.—Not otherwise specified.

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THE TRANS-MISSOURI FREIGHT ASSOCIATION.

[Rates in effect February 1, 1890.]

Articles.	From Denver, Colorado Springs, Pueblo, and Trinidad, Colo., and points taking Denver rates, to—			To Denver, Colorado Springs, Pueblo, and Trinidad, Colo., and points taking Denver rates, from—		
	Chicago, St. Paul, Minneapolis, and common points, Memphis, Tenn.	Peoria, Ill., and common points.	East St. Louis, St. Louis, and common points, Cairo, Ill., East Cairo, and Columbus, Ky.	Chicago, St. Paul, Minneapolis, and common points, Memphis, Tenn.	Peoria, Ill., and common points.	East St. Louis, St. Louis, and common points, Cairo, Ill., East Cairo, and Columbus, Ky.
Agricultural implements (except hand):						
C. L ..... per 100 lbs..	$1.15	$1.11½	$1.07½	$1.15	$1.11½	$1.07½
N. O. S., K. D. flat, in bundles, L. C. L.... do....	2.30	2.20	2.10	2.20	2.20	2.10
Apples, in barrels or boxes, O. R., P. P., or guaranteed, C. L ..... per 100 lbs..	1.00	.97½	.95	1.00	.97½	.95
Bacon, hams and shoulders, packed, C. L.....do....	.93	.90½	.88	.93	.90½	.88
Barley, C. L ..... do....	.60	.60	.58	.50	.47½	.45
Beans and peas, dried, in bbls. or in bulk, C. L..do....	1.00	.97½	.95	1.00	.97½	.95
Beef, pickled:						
C. L .....do....	.93	.90½	.88	.93	.90½	.88
L. C. L .....do....	1.20	1.17½	1.15	1.20	1.17½	1.15
Butter, in wood or tin, O. R.:						
C. L.....do....	1.50	1.45	1.40	1.50	1.45	1.40
L. C. L .....do....	1.90	1.80	1.70	1.90	1.80	1.70
Cheese, in boxes, tubs, or casks:						
C. L .....do....	1.50	1.45	1.40	1.50	1.45	1.40
L. C. L .....do....	1.90	1.80	1.70	1.90	1.80	1.70
Corn, C. L .....do....	.....	.....	.....	.50	.47½	.45
Cotton-seed cake and meal, C. L.....do....	.75	.72½	.70	.50	.47½	.45
Fertilizers, C. L .....do....	.45	.42½	.40	.56	.53½	.51
Flax and millet seed, O. R., C. L .....do....	.....	.....	.....	.57½	.55	.52½
Flour, C. L .....do....	.67½	.65	.62½	.57½	.55	.52½
Flour, for export, forwarded on through bills of lading, C. L ..... per 100 lbs..	.65	.62½	.60	.....	.....	.....
Fruit, dried:						
N. O. S., in cans, barrels, boxes, or sacks, released, C. L .....per 100 lbs..	1.20	1.17½	1.15	1.20	1.17½	1.15
L. C. L .....do....	1.50	1.45	1.40	1.50	1.45	1.40
Fruit, green, N. O. S., O. R., P. P., or guaranteed, C. L .....per 100 lbs..	1.50	1.45	1.40	1.50	1.45	1.40
Hides, dry, C. L., (minimum weight 10,000 lbs.) .do....	1.47	1.47	1.37	1.90	1.80	1.70
Dry, in bundles, L. C. L.....do....	2.30	2.20	2.10	2.30	2.20	2.10
Green, C. L .....do....	.93	.90½	.88	.93	.90½	.88
Hogs, dressed, C. L .....do....	1.15	1.12½	1.10	1.15	1.12½	1.10
Lard:						
In crocks, buckets, boxes, barrels, or casks, C. L .....per 100 lbs..	.93	.90½	.88	.93	.90½	.88
In barrels or tierces, L. C. L.....do....	1.20	1.17½	1.15	1.20	1.17½	1.15
Meat, fresh, P. P., or guaranteed, C. L .....do....	*1.28½	1.26	1.23½	.98½	.96	.93½
Oats, C. L .....do....	.....	.....	.....	.50	.47½	.45
Pork, packed:						
C. L .....do....	.93	.90½	.88	.93	.90½	.88
L. C. L. .....do....	1.20	1.17½	1.15	1.20	1.17½	1.15
Potatoes:						
C. L .....do....	.55	.52½	.50	.75	.72½	.70
In sacks or barrels, L. C. L ....do....	1.20	1.17½	1.15	1.20	1.17½	1.15
Sweet, C. L .....do....	.75	.72½	.70	.80	.77½	.72½
Salt:						
C. L .....do....	.....	.....	.....	.50	.47½	.46½
In sacks, boxes, or barrels, L. C. L .....do....	1.20	1.17½	1.15	1.20	1.17½	1.15
Tobacco, unmanufactured, in hogsheads or cases, L. C. L.....per 100 lbs..	1.20	1.17½	1.15	1.20	1.17½	1.15
Wheat, C. L .....do	.....	.....	.....	.57½	.55	.52½
Wool:						
In sacks, any quantity .....do	1.85	1.75	1.65	.....	.....	.....
Machine compressed, C. L. (minimum weight 16,000 pounds).....per 100 lbs..	1.50	1.45	1.40	.....	.....	.....
Horses, in standard cars, C. L.....per car..	108.00	99.25	90.50	115.00	106.25	97.50
Cattle, in standard cars, C. L.....do....	98.00	89.25	80.50	105.00	96.25	87.50
Hogs, in standard cars, single deck, C. L.....do....	98.00	89.25	80.50	.....	.....	.....
Sheep:						
In standard cars, single deck, C. L .....do....	58.80	50.05	48.30	63.00	57.75	52.50
In standard cars, double deck, C. L.....do	98.00	89.25	80.50	105.00	96.25	87.50

*To Chicago and Memphis only.

C. L.—Car-loads. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified. K. D.—Knocked down. O. R.—Owner's risk. P. P.—Prepaid.

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CHICAGO, BURLINGTON AND QUINCY RAILROAD.

[Rates in effect February 1, 1890, in cents, per 100 pounds.]

Articles.	To St. Louis from—		To Chicago from—	
	Atchison, Kansas City, St. Joseph.	Omaha, Council Bluffs.	Atchison, Kansas City, St. Joseph.	Omaha, Council Bluffs.
Apples, in barrels or boxes, O. R., P. P. or grnt'd:				
C. L.	20	20	25	25
L. C. L.	30	30	40	40
Bacon and hams:				
Packed, C. L	13	13	18	18
In barrels, boxes, or crates, L. C. L	25	25	30	30
Beef:				
Dried or pickled, in barrels or tierces, C. L	13	13	18	18
Dried in boxes, barrels, or crates, L. C. L	25	25	30	30
Dressed, common cars, C. L	13½	18½	18½	23½
Dressed, refrigerator cars, C. L	13½	18½	18½	23½
Butter, in wood or tin, O. R.:				
C. L.	30	30	40	40
L. C. L	40	40	60	60
Cheese, in boxes, tubs, or casks:				
C. L.	30	30	40	40
L. C. L	40	40	60	60
Cotton, pressed in bales, any quantity	55	55	75	75
Fertilizers, N. O. S., in packages:				
C. L.	11	11	16	16
L. C. L.	25	25	30	30
Flour, in barrels (200 pounds per barrel):				
C. L	17½	20	22½	25
L. C. L	25	25	30	30
Hides, dry, in bundles:				
L. C. L	55	55	75	75
C. L (min. wgt. 10,000)	40	40	60	60
Hides, green, in bundles, C. L	20	20	25	25
Hogs dressed:				
Common cars, C. L	13½	18½	18½	23½
Refrigerator cars, C. L	13½	18½	18½	23½
Lard, in barrels or tierces:				
C. L.	13	13	18	18
L. C. L	25	25	30	30
Lumber, soft:				
C. L.	8½	*11½	13	13
L. C. L	25	25	30	30
Lumber, hard:				
C. L.	11½	11½	16	16
L. C. L	25	25	30	30
Pork, packed:				
C. L.	13	13	18	18
L. C. L	25	25	30	30
Potatoes, N. O. S., in sacks or barrels, O. R:				
C. L.	15	15	20	20
L. C. L	25	25	30	30
Potatoes, sweet, O. R., L. C. L	40	40	60	60
Tobacco, unmfd., in hhds. or cases, L. C. L	25	25	30	30
Wool, compressed in bales, L. C. L	30	30	40	40
Wool, in sacks, L. C. L	40	40	60	60
Wheat, C. L	17½	20	22½	25
Corn, rye, oats, and barley, C. L	15	15	20	20
Cattle, C. L	13½	16½	12½	25
Horses, in standard cars, C. L	†$40.00	17.50/100	†$60.00	27½
Sheep, single deck, C. L	14½	17½	22	25
Hogs, single deck, C. L	21½	17½	25	25

* Council Bluff rate 2 cent less. † Per car.

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. P. P.—Prepaid.

N. O. S.—Not otherwise specified.

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ST. PAUL AND DULUTH RAILROAD.

[Rates in effect February 1, 1890.]

Articles.		To Duluth from—			
		St. Paul, Minneapolis, and Wyoming, Minn.	Rush City.	Hinckley.	Kettle River.
Agricultural implements (except hand):					
C. L.	per 100 lbs.	$0.14	$0.13	$0.12½	$0.12
N. O. S., K. D., flat, in bundles, L. C. L.	do	.35	.35	.35	.35
Apples, in barrels or boxes, O. R., P. P., or guaranteed:					
C. L.	do	.10	.10	.09	.09
L. C. L.	do	.23	.23	.23	.23
Bacon, hams, and shoulders in barrels, boxes or crates:					
C. L.	do	.10	.10	.09	.09
L. C. L.	do	.17	.17	.17	.17
Beans and peas, dried, in barrels, or in bulk, C. L.	do	.10	.10	.09	.09
Beef pickled:					
C. L.	do	.10	.10	.09	.09
L. C. L.	do	.17	.17	.17	.17
Butter, in wood or tin, O. R.:					
C. L.	do	.23	.23	.23	.23
L. C. L.	do	.30	.30	.30	.30
Cheese, in boxes, tubs, or casks:					
C. L.	do	.23	.23	.23	.23
L. C. L.	do	.30	.30	.30	.30
Flour in barrels:					
C. L.	do	.05	.05	.05	.05
L. C. L.	do	.17	.17	.17	.17
Fruit, dried, N. O. S. in cans, barrels, boxes, or sacks, released:					
C. L.	do	.17	.17	.17	.17
L. C. L.	do	.23	.23	.23	.23
Fruit, green, N. O. S., O. R., P. P., or guaranteed:					
C. L.	do	.23	.23	.23	.23
L. C. L.	do	.35	.35	.35	.35
Hides, dry:					
In bundles, L. C. L.	do	.35	.35	.35	.35
C. L. (minimum weight 10,000 pounds)	do	.30	.30	.30	.30
Hides, green, C. L.	do	.10	.10	.09	.09
Hops, L. C. L.	do	.30	.30	.30	.30
Lard:					
C. L.	do	.10	.10	.10	.10
In barrels, or tierces, L. C. L.	do	.17	.17	.17	.17
Lumber:					
Hard, C. L.	do	.07	.07	.05⅞	.05⅞
Soft, C. L.	do	.07	.07	.05⅞	.05⅞
Lumber (except woods of value), L. C. L.	do	.17	.17	.17	.17
Meats, fresh, C. L.	do	.15	.15	.15	.15
Pork, packed:					
C. L.	do	.10	.10	.10	.10
L. C. L.	do	.17	.17	.17	.17
Potatoes, in sacks or barrels:					
O. R., C. L.	do	.10	.10	.09	.08½
L. C. L.	do	.17	.17	.17	.17
Potatoes, sweet, O. R., L. C. L.	do	.30	.30	.30	.30
Salt:					
In barrels or in bulk, C. L.	do	.08½	.07½	.07	.06½
In sacks, boxes, or barrels, L. C. L.	do	.17	.17	.17	.17
Tobacco, unmanufactured:					
In hogsheads or cases, L. C. L.	do	.17	.17	.17	.17
In bales, L. C. L.	do	.30	.30	.30	.30
Flax, millet, and hemp seed, C. L.	do	.10	.10	.09	.08½
Wheat, C. L.	do	.05	.05	.05	.05
Corn, rye, oats, and barley, C. L.	do	.10	.09½	.09	.08½
Wool:					
In sacks, L. C. L.	do	.30	.30	.30	.30
Compressed in bales, L. C. L.	do	.23	.23	.23	.23
Horses and mules, in standard cars, C. L.	per car	33.00	28.00	25.00	22.00
Cattle, C. L.	do	20.00	20.00	20.00	19.50
Hogs, C. L.	do	20.00	20.00	19.50	17.50
Sheep, single deck, C. L.	do	15.00	15.00	14.75	13.00

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified. K. D.—Knocked down. O. R.—Owner's risk. P. P.—Prepaid.

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OCEAN STEAM-SHIP COMPANIES.

[Rates in effect February 1, 1890.]

Articles.	White Star Line, New York to Liverpool.	Inman Line, New York to Liverpool.	Guion Line, New York to Liverpool.	Anchor Line, New York to Glasgow.
Wheat ..... per bushel	$0.10½	$0.11	$0.11	$0.12
Corn ..... do	.10½	.11	.11	.12
Flour ..... per barrel	.72	.72	.72	.72
Flour (in sacks) ..... per 2,240 pound	4.80	5.40	.....	5.10
Bacon ..... do	8.40	8.40	8.40	8.40
Lard ..... do	8.40	8.40	8.40	8.40
Cheese ..... do	9.60	9.60	9.00 to 9.60	9.60
Tallow ..... do	7.20	7.80	7.20	7.20
Beef ..... per tierce	1.44	1.44	1.44	1.56
Pork ..... per barrel	.96	.96	.96	1.02
Oil-cake ..... per 2,240 pounds	4.20	4.80	.....	4.80
Cotton ..... per pound	.00½	.00½	.00 15/32 to .00½	.....
Hops ..... do	.01	.01½	.01½	.01
Tobacco ..... per hhd	7.20	7.20	.....	6.00
Rosin ..... per 280 pounds	.72	.96	.....	.72
Lard (in small packages) ..... per 2,240 pounds	9.60	9.60	.....	9.60
Tobacco (in cases) ..... per 40 cubic feet	4.80	4.80	4.80	6.00
Apples ..... per barrel	.72	.72	.72	.84
Hams ..... per 2,240 pounds	8.40	8.40	8.40	8.40
Butter ..... do	10.80	10.80	10.80	9.60
Measurement per ton (40 cubic feet)	6.00	4.80 to 6.00	4.80	4.80 to 6.00
Primage ..... per cent	5	5	5	5

Articles.	North German Lloyd Steam-ship Company, New York to Bremen.	General Transatlantic Company, New York to Havre.
Wheat ..... per 100 lbs	$0.22½	.....
Corn ..... do	.22½	.....
Flour ..... per barrel	.72	†1.00
Flour (in sacks) ..... per 100 lbs	.30	.35
Bacon ..... do	.36	.....
Lard ..... do	.36	.35
Cheese ..... do	.42	.....
Tallow ..... do	.36	.35
Beef ..... per tierce	1.50	1.25
Pork ..... per barrel	1.20	1.00
Oil-cake ..... per 100 lbs	.27½	.35
Cotton ..... per pound	*.00 7/16	00. 7/16 to .00½
Hops ..... do	*.01	.....
Tobacco ..... per hhd	7.50	8.50 to 9.00
Rosin ..... per 280 lbs	.80	.....
Lard (in small packages) ..... per 100 lbs	.42	.45 to .55
Tobacco (in cases) ..... per case	1.68	†10.00
Apples ..... per barrel	1.00	1.00 to 1.10
Hams ..... per 100 lbs	.36	.....
Butter ..... do	.60	.....
Measurement per ton (40 cubic feet)	4.80 to 10.00	10.00
Primage ..... per cent	.....	5

* And 5 per cent. primage.

† Per 40 cubic feet.

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DEPARTMENT OF AGRICULTURE.
REPORT OF THE STATISTICIAN.
New Series. Report No. 71.

REPORT

ON

DISTRIBUTION AND CONSUMPTION OF CORN AND WHEAT,

AND ON

FREIGHT RATES OF TRANSPORTATION COMPANIES.

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

MARCH, 1890.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1890.

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MARCH REPORT.

DEPARTMENT OF AGRICULTURE,
March 15, 1890.

SIR: I have the honor to submit for publication a report of an investigation concerning the distribution and consumption of corn and wheat, and the quantities remaining on hand in the several States on the 1st of March. The proportion of merchantable corn is estimated for the crop of last year, and the value of both merchantable and unmerchantable corn is given in the several States. The stock on hand of wheat is given for comparison with the stock at the same date last year, and the comparative quality of the crop of 1889 is made the subject of inquiry.

The subject of low prices of rural products, and resulting agricultural depression, is considered briefly, without attempting to exhaust it. It is shown that the main staple products of agriculture, like corn and wheat and meats, are produced in greater proportionate abundance than in former times, notwithstanding the large increment of population, and that there is a sad lack of production of foods and fibers and scores of products demanded by our advancing civilization, leaving rural labor idle or employed in unprofitable enlargement of products which lag lamentably on the world's markets. Another serious cause of depression is the unnecessarily and inequitably large proportion of the value of agricultural products that is consumed by the carrier and middleman, in their passage from producer to consumer. The increasing army of non-producers, with their combinations for gain under a pretense of helpfulness, is shown to be a heavy burden upon productive industry. It illustrates the truth that the natural ally of the farmer is his fellow producer in other lines of construction, and that his natural opponent is the non-producer who lives upon the products of the industry of others without rendering an equitable equivalent.

The usual tables of railroad and steamer transportation lines are submitted.

Respectfully,

J. R. DODGE,
Statistician.

HON. J. M. RUSK,
Secretary.

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DISTRIBUTION AND CONSUMPTION.

CORN.

Another large crop of maize has been produced, the largest ever made in absolute quantity, and the largest since 1880 in rate of yield. In the seven years from 1881 to 1887, inclusive, there was not a single crop that made the average of the ten previous years. The cause of reduced yield was climatic rather than economic. The yield of the last year was about the same as that of the period of large crops prior to 1880.

The quantity of corn reported as consumed or distributed is very large, but not quite equal to the consumption reported last March, or in 1886, on account of the mildness of the weather. In some sections distribution has been hindered by the soft condition of the roads. Its cheapness tended to lavish use, and feeding has been liberal if not wasteful. Some corn in the distant West has been used for fuel, where it is cheaper than coal, an entirely legitimate use, as it is superabundant and cheap everywhere, and not desired for food even by the hungriest foreigners. The aggregate of local estimates is 1,143,000,000 already used, leaving a stock on hand of 970,000,000 bushels, or nearly 46 per cent. of the crop. This is a larger remainder than has ever before been reported. The average of eight annual returns is 677,000,000 bushels. The natural growth of the country requires 2 or 3 per cent. increase annually. The comparison of stock on hand and quantity consumed, as heretofore reported on the 1st of March, is as follows:

Date.	Product.	On hand March 1.	Per cent.	Consumed or distributed.
March 1:	*Bushels.*	*Bushels.*		*Bushels.*
1883	1,617,000,000	587,000,000	36.3	1,030,000,000
1884	1,551,000,000	512,000,000	33.	1,039,000,000
1885	1,795,000,000	675,000,000	37.6	1,120,000,000
1886	1,936,000,000	773,000,000	39.9	1,163,000,000
1887	1,665,000,000	603,000,000	36.2	1,062,000,000
1888	1,456,000,000	508,000,000	34.9	948,000,000
1889	1,988,000,000	787,000,000	39.6	1,201,000,000
1890	2,113,000,000	970,000,000	45.9	1,143,000,000

The section which produces the larger part of the crop, the western, also consumes the largest proportion at this date, leaving out of the account the insignificant quantities grown in the Eastern and in the Pacific coast States. About 65 per cent. of the product is usually distributed in the Western States, but this year only 53.7 per cent. is reported, a proportion far below the usual consumption. This marks the present year as altogether exceptional in this respect. It also accounts

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fcr the reduction in value, which is recorded elsewhere, since the December returns of value were made.

On the contrary, the consumption of corn in the cotton States is always less in proportion at this date, because the crop matures later and the winter is milder, but especially on account of the comparative absence of feeding for beef and the necessity of general and late feeding of "plow stock" in the spring and summer cultivation of corn and cotton. A considerable share of the corn crop must be reserved for use after April and until July, by far the busiest season of the year for horses and work cattle.

The details of this consumption, year by year, in the principal groups of States, can be studied in the following record:

Sections.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
	Per ct.	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
New England	70.2	66.2	62.9	61.6	63.3	65.4	66.5	66.4
Middle	62.6	68.2	63.4	59.3	61.8	65.6	62.0	59.9
Southern	56.5	58.6	58.6	54.6	58.1	55.5	55.7	53.5
Western	66.2	69.3	63.3	61.6	65.6	69.6	61.4	53.7
Pacific	74.6	70.7	60.4	68.4	70.5	78.3	75.1	71.4
Nevada, Colorado, and Territories	65.0	70.2	65.5	63.3	67.0	59.5	68.5	70.0

Turning from distribution to date, we find 970,000,000 bushels reported in the hands of farmers, or 183,000,000 bushels more than last March, and 462,000,000 bushels more than in 1888. In the Middle States there is no increase over last year. In the Southern States the aggregate is greater by several millions than ever before. The table is as follows:

Sections.	1887.		1888.		1889.		1890.	
	Bushels.	*Per ct.*	*Bushels.*	*Per ct.*	*Bushels.*	*Per ct.*	*Bushels.*	*Per ct.*
New England	3,208,200	36.7	3,177,620	34.6	2,304,580	33.5	2,873,780	33.6
Middle	29,045,170	38.2	28,595,170	34.4	31,759,040	38.0	30,603,350	40.1
Southern	158,354,600	41.9	187,825,040	44.5	182,670,430	44.3	199,408,040	46.5
Western	405,409,820	34.4	278,119,100	30.4	562,963,360	38.6	730,448,050	46.3
Pacific	1,310,640	29.5	1,061,960	21.7	1,112,310	24.9	1,321,250	28.6
Nevada, Colorado, and Territories	6,016,220	33.0	9,494,560	40.5	6,672,340	31.5	5,284,010	30.0
Total	603,344,650	36.2	508,273,510	34.9	787,482,060	39.6	969,938,480	45.9

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There are twelve States in the Western group, but only seven of them may be considered sources of the commercial supply. It is more important to consider the corn surplus States relative to the question of distribution. The following statement shows the proportion of the crop on hand in these States:

States.	1887.		1888.		1889.		1890.	
	Bushels.	*P. ct.*	*Bushels.*	*P. ct.*	*Bushels.*	*P. ct.*	*Bushels.*	*P. ct.*
Ohio	33, 071, 400	35	22, 139, 100	30	38, 137, 380	41	37, 360, 260	42
Indiana	43, 954, 150	37	19, 992, 000	28	50, 191, 200	40	47, 995, 200	45
Illinois	77, 032, 060	37	43, 734, 800	31	114, 004, 600	41	124, 380, 000	48
Iowa	59, 654, 100	30	62, 390, 080	34	114, 075, 120	41	167, 983, 680	48
Missouri	43, 112, 700	30	39, 495, 720	28	72, 929, 880	36	102, 855, 270	47
Kansas	40, 547, 840	32	18, 371, 280	24	52, 201, 380	33	117, 848, 920	49
Nebraska	45, 635, 470	43	34, 465, 500	37	57, 686, 800	40	68, 789, 780	46
Total	344, 208, 320	34. 4	240, 559, 080	30. 8	499, 226, 360	39. 0	667, 213, 110	47. 2

In these States the stock on hand appears to be 667,000,000 bushels, or 69 per cent. of the aggregate for the country, and about the average aggregate for the entire crop at this date for the past eight years. It is seen, also, as a noticeable but by no means a surprising fact, that about seven-tenths of this surplus is in States beyond the Mississippi, and that nearly half of the corn remaining in the country is in these States: Iowa, Missouri, Kansas, and Nebraska. It reduces to narrow limits the commercial search for supplies of corn.

DISTRIBUTION.

The distribution beyond county lines will be large in quantity, but no larger in proportion than last year. The estimated percentage to go beyond county lines is 18.2, against 18.7 last year. The quantity is 384,000,000 bushels. It has been held formerly, as an average of the results of these investigations, that about five-sixths of the crop is consumed in the county where it is grown, and most of it on the farms which produced it. The export of late is only 2 or 3 per cent. of the crop, and there is little prospect of increase, as it is only used abroad as stock feed in competition with other feeding material.

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States and Territories.	Crop of 1889.	Stock on hand March 1, 1890.		Consumed in county where grown.		Shipped out of county where grown.	
	Bushels.	*Bushels.*	*P. ct.*	*Bushels.*	*P. ct.*	*Bushels.*	*P. ct.*
Maine	1,034,000	351,560	34	1,023,660	99	10,340	1
New Hampshire	1,311,000	393,300	30	1,311,000	100	.....	.....
Vermont	2,044,000	776,720	38	2,044,000	100	.....	.....
Massachusetts	1,997,000	678,980	34	1,997,000	100	.....	.....
Rhode Island	393,000	125,760	32	393,000	100	.....	.....
Connecticut	1,766,000	547,460	31	1,766,000	100	.....	.....
New York	20,475,000	7,371,000	36	20,270,250	99	204,750	1
New Jersey	10,792,000	4,316,800	40	9,712,800	90	1,079,200	10
Pennsylvania	41,225,000	17,314,500	42	35,865,750	87	5,359,250	13
Delaware	3,905,000	1,601,050	41	2,811,600	72	1,093,400	28
Maryland	15,105,000	7,099,350	47	11,026,650	73	4,078,350	27
Virginia	34,231,000	14,719,330	43	31,150,210	91	3,080,790	9
North Carolina	33,050,000	14,542,000	44	31,728,000	96	1,322,000	4
South Carolina	18,310,000	8,071,900	49	17,577,600	96	732,400	4
Georgia	33,730,000	16,865,000	50	32,380,800	96	1,349,200	4
Florida	5,206,000	2,342,700	45	5,101,880	98	104,120	2
Alabama	33,944,000	16,293,120	48	32,586,240	96	1,357,760	4
Mississippi	29,474,000	13,852,780	47	28,295,040	96	1,178,960	4
Louisiana	18,949,000	8,716,540	46	18,570,020	98	378,980	2
Texas	83,698,000	35,990,140	43	73,654,240	88	10,043,760	12
Arkansas	42,608,000	19,599,680	46	40,477,600	95	2,130,400	5
Tennessee	80,831,000	40,415,500	50	72,747,900	90	8,083,100	10
West Virginia	15,199,000	5,927,610	39	14,135,070	93	1,063,930	7
Kentucky	75,382,000	33,921,900	45	65,582,340	87	9,799,660	13
Ohio	88,953,000	37,360,260	42	77,389,110	87	11,563,890	13
Michigan	22,737,000	7,275,840	32	22,054,890	97	682,110	3
Indiana	106,656,000	47,995,200	45	90,657,600	85	15,998,400	15
Illinois	259,125,000	124,380,000	48	194,343,750	75	64,781,250	25
Wisconsin	28,415,000	9,092,800	32	27,278,400	96	1,136,600	4
Minnesota	21,263,000	7,016,790	33	19,987,220	94	1,275,780	6
Iowa	349,966,000	167,983,680	48	269,473,820	77	80,492,180	23
Missouri	218,841,000	102,855,270	47	186,014,850	85	32,826,150	15
Kansas	240,508,000	117,848,920	49	168,355,600	70	72,152,400	30
Nebraska	149,543,000	68,789,780	46	100,193,810	67	49,349,190	33
California	4,464,000	1,294,560	29	3,794,400	85	669,600	15
Oregon	157,000	26,690	17	153,860	98	3,140	2
Colorado	1,092,000	382,200	35	1,070,160	98	21,840	2
Dakota	14,743,000	4,570,330	31	14,005,850	95	737,150	5
New Mexico	1,126,000	202,680	18	1,126,000	100	.....	.....
Utah	644,000	128,800	20	605,360	94	38,640	6
Total	2,112,892,000	969,938,480	45.9	1,728,713,330	81.8	384,178,670	18.2

The proportion which goes beyond county lines is, of course, largest in the western group. It happens that the percentage in this group is precisely the same this year as in 1889. While a moderate percentage is moved in the South, and in the Middle States, it only passes to local markets near the county boundaries, and practically none crosses State lines. The table of distribution by groups of States is as follows:

Sections.	1889.				1890.			
	Retained for county consumption.		Distribution beyond county lines.		Retained for county consumption.		Distribution beyond county lines.	
	Bushels.	*Per cent.*	*Bushels.*	*Per cent.*	*Bushels.*	*Per cent.*	*Bushels.*	*Per cent.*
New England	6,775,780	98.4	108,220	1.6	8,534,660	99.9	10,340	.1
Middle	73,196,270	87.7	10,282,780	12.3	68,660,400	89.9	7,736,600	10.1
Southern	368,830,060	89.5	43,080,940	10.5	395,296,180	92.1	33,839,820	7.9
Western	1,144,023,870	78.4	315,824,130	21.6	1,235,466,460	78.4	341,121,540	21.6
Pacific	3,348,530	74.8	1,126,470	25.2	3,948,260	85.4	672,740	14.6
Nevada, Colorado, and Territories	19,757,060	93.2	1,435,940	6.8	16,807,370	95.5	797,630	4.5
Total	1,615,931,570	81.3	371,858,430	18.7	1,728,713,330	81.8	384,178,670	18.2

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PROPORTION MERCHANTABLE.

The present crop was well ripened and of good quality, with a high percentage of merchantable grain. The crop of 1883 was somewhat better, and that of 1885 quite as good. The difference in the quality of the crops of seven years past is thus indicated by the record:

Years.	Merchantable.		Unmerchantable.	
	Bushels.	*Pr. Ct.*	*Bushels.*	*Pr. Ct.*
1883	935, 926, 541	60. 0	615, 140, 354	40. 0
1884	1, 593, 332, 101	89. 0	202, 196, 231	11. 0
1885	1, 583, 012, 860	78. 0	353, 163, 140	22. 0
1886	1, 438, 446, 830	86. 0	226, 994, 170	14. 0
1887	1, 222, 166, 360	84. 0	233, 994, 640	16. 0
1888	1, 637, 405, 930	82. 4	350, 384, 070	17. 6
1889	1, 810, 557, 850	85. 7	302, 334, 150	14. 3

States and Territories.	Merchantable.				Unmerchantable.			
	Bushels.	Per cent.	Price per bushel.	Value.	Bushels.	Per cent.	Price per bushel.	Value.
Maine	899, 580	87	62	557, 740	134, 420	13	39	52 424
New Hampshire	1, 127, 460	86	56	631, 378	183, 540	14	35	64, 239
Vermont	1, 778, 280	87	52	924, 706	265, 720	13	30	79, 716
Massachusetts	1, 677, 480	84	58	972, 938	319, 520	16	28	89, 466
Rhode Island	314, 400	80	65	204, 360	78, 600	20	28	22, 008
Connecticut	1, 377, 480	78	57	785, 164	388, 520	22	27	104, 900
New York	14, 946, 750	73	50	7, 473, 375	5, 528, 250	27	25	1, 382, 063
New Jersey	8, 957, 360	83	47	4. 209, 959	1, 834, 640	17	21	385, 274
Pennsylvania	32, 980, 000	80	44	14, 511, 200	8, 245, 000	20	26	2, 143, 700
Delaware	3, 163, 050	81	42	1, 328, 481	741, 950	19	20	148, 390
Maryland	12, 084, 000	80	40	4, 833, 600	3, 021, 000	20	22	664, 620
Virginia	25, 673, 250	75	47	12, 066, 428	8, 557, 750	25	26	2, 225, 015
North Carolina	26, 440, 000	80	57	15, 070, 800	6, 610, 000	20	28	1, 850, 800
South Carolina	15, 563, 500	85	62	9, 649, 370	2, 746, 500	15	31	851, 415
Georgia	29, 345, 100	87	58	17, 020, 158	4, 384, 900	13	29	1, 271, 621
Florida	4, 581, 280	88	64	2, 932, 019	624, 720	12	32	199, 910
Alabama	29, 870, 720	88	55	16, 428, 896	4, 073, 280	12	28	1, 140, 518
Mississippi	26, 526, 600	90	53	14, 059, 098	2, 947, 400	10	27	795, 798
Louisiana	16, 485, 630	87	55	9, 067, 097	2, 463, 370	13	29	714, 377
Texas	74, 491, 220	89	42	31, 286, 312	9, 206, 780	11	25	2, 301 695
Arkansas	38, 347, 200	90	44	16, 872, 768	4, 260, 800	10	27	1, 150, 416
Tennessee	71, 131, 280	88	37	26, 318, 574	9, 699, 720	12	23	2, 230, 936
West Virginia	12, 159, 200	80	46	5, 593, 232	3, 039, 800	20	26	790, 348
Kentucky	61, 813, 240	82	34	21, 016, 502	13, 568, 760	18	17	2, 306, 689
Ohio	65, 825, 220	74	32	21, 064, 070	23, 127, 780	26	18	4, 163, 000
Michigan	13, 187, 460	58	37	4, 879, 360	9, 549, 540	42	21	2, 005, 403
Indiana	70, 392, 960	66	27	19, 006, 099	36, 203, 040	34	15	5, 439, 456
Illinois	196, 935, 000	76	25	49, 233, 750	62, 190, 000	24	17	10, 572, 300
Wisconsin	18, 469, 750	65	29	5, 356, 228	9, 045, 250	35	24	2, 386, 860
Minnesota	17, 010, 400	80	25	4, 252, 600	4, 252, 600	20	18	765, 468
Iowa	321, 968, 720	92	19	61, 174, 057	27, 997, 280	8	16	4, 479, 565
Missouri	205, 710, 540	94	21	43, 199, 213	13, 130, 460	6	16	2, 100, 874
Kansas	223, 482, 600	95	15	34, 272, 390	12, 025, 400	5	12	1, 443, 048
Nebraska	143, 561, 280	96	15	21, 534, 192	5, 981, 720	4	10	598, 172
California	4, 196, 160	94	67	2, 811, 427	267, 840	6	37	99, 101
Oregon	141, 300	90	67	94, 671	15, 700	10	30	4, 710
Colorado	895, 440	82	38	340, 267	196, 560	18	20	39, 312
Dakota	10, 614, 960	72	28	2, 972, 189	4, 128, 040	28	22	908, 169
New Mexico	1, 013, 400	90	59	597, 906	112, 600	10	26	29, 276
Utah	418, 600	65	65	272, 090	225, 400	35	34	76, 636
Total	1, 810, 557, 850	85. 7	27. 9	504, 874, 604	302, 334, 150	14. 3	19. 2	58, 077, 688

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VALUE OF THE CROP.

The value of the crop on the basis of March prices of merchantable and unmerchantable corn, separately estimated, is as follows:

Merchantable, at 27.9 cents per bushel	$504,874,664
Unmerchantable, at 19.2 cents per bushel	58,077,688
Total value, on basis of March prices	562,952,352
Total value, on basis of December prices	597,918,829
Reduction in three months	34,966,477

This is a decline of nearly 6 per cent., which is the natural result of a large surplus with limited demand and high cost of transportation to market. The previous crop was a large one, and a similar fall in prices occurred last winter.

States.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Kentucky	30	32	40	37	38	70	52	42	43	35	34	53	34	34
Ohio	38	40	33	39	41	61	62	47	41	32	35	48	35	31
Michigan	52	39	38	45	46	63	59	52	40	34	38	48	42	37
Indiana	34	34	27	34	40	60	48	41	34	29	32	45	31	27
Illinois	31	29	25	31	36	58	47	40	31	28	31	41	29	24
Wisconsin	41	33	29	39	39	54	53	48	34	34	37	42	36	29
Minnesota	40	38	29	27	36	53	45	43	33	32	34	37	32	27
Iowa	25	25	16	24	26	44	38	32	23	24	30	35	24	19
Missouri	28	27	26	25	36	65	39	35	26	25	31	37	30	23
Kansas	24	21	19	27	29	58	37	26	22	24	27	37	26	18
Nebraska	27	18	16	21	25	39	33	24	18	19	20	30	22	17
Dakota	.....	.....	.....	.....	.....	.....	51	45	30	28	37	35	33	33
United States	37	35.8	31.8	37.5	39.6	63.6	48.4	42.4	35.7	32.8	36.6	44.4	34.1	28.3

The export prices of recent years, which follow, can be compared with these farm values by reference to the following table:

Years ended June 30—	Price.	Years ended June 30—	Price.	Years ended June 30—	Price.
	Cents.		Cents.		Cents.
1878	56.2	1882	66.8	1886	49.8
1879	47.1	1883	68.4	1887	48.0
1880	54.3	1884	61.1	1888	55.0
1881	55.2	1885	54.0	1889	47.4

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WHEAT.

The proportion of the crop remaining in the hands of growers on the 1st of March usually ranges from 26 to 33 per cent. In 1885 it was 33 per cent. The present returns make it 31.9 per cent. of the crop of 1889, or 156,000,000 bushels. The lowest percentage ever reported was within a fraction of 26 per cent. after the disastrous season of 1881. The statement for ten years is as follows:

Year.	Crops of previous years.	In farmers' hands March 1.	
	Bushels.	*Bushels.*	*Per cent.*
1890	490, 560, 000	156, 000, 000	31.9
1889	415, 868, 000	112, 000, 000	26.9
1888	456, 329, 000	132, 000, 000	28.9
1887	457, 218, 000	122, 000, 000	26.7
1886	357, 112, 000	107, 000, 000	30.1
1885	512, 765, 000	169, 000, 000	33.0
1884	421, 086, 160	119, 000, 000	28.3
1883	504, 185, 470	143, 000, 000	28.4
1882	383, 280, 090	98, 000, 000	25.6
1881	498, 549, 868	145, 000, 000	29.1

The wheat crop of 1889 was exceeded by the crops of 1880, 1882, and 1884. The average remainder in the hands of growers on the 1st day of March, for ten years past, has been 130,000,000 bushels. The average crop during this period 450,000,000 bushels. Only in years having a product much below this average has the March remainder fallen below 130,000,000 bushels, with the sole exception of 1886, when a crop of 457,000,000 followed one of 357,000,000.

The present returns are very full and satisfactory, the State agents' estimates agreeing closely with those of the Department consolidation. Where discrepancies existed between the two sets of returns they have been harmonized in a conservative spirit, tending to reduction of reserves, and actually reducing them two or three million bushels. The result may be accepted with absolute confidence as an approximation as close as can be made by local estimates.

Most of the wheat in farmers' hands is in the States which have no surplus over consumption, or in those in which much the larger portion is consumed at home. The six spring-wheat States have only 45,000,000 bushels, 18,000,000 of which will be required for spring seed, 12,000,000 for four months' consumption for a population of 7,000,000, and not half of the remaining 15,000,000 can be brought out by any ordinary pressure upon the invisible reserves. Ohio, Michigan, Indiana, Illinois, Missouri, and Kansas, the only winter-wheat States east of the Rocky Mountains contributing to commercial distribution, have only 60,000,000 bushels, 36,000,000 of which will be needed at home, leaving only 24,000,000 as stocks, only a part of which is commercially available at present prices. It is seen, therefore, that the available supply for exportation and for home distribution to July is very small. The depleted farm reserves have been measurably filled, except in a few States,

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but will require the pressure of high prices to squeeze any considerable proportion of them into commercial distribution.

It should be remembered that twenty-seven States and several Territories are not relied upon for any commercial wheat, and few of them ever furnish enough to other States under any circumstances to render them practically contributors to outside wheat consumption. In fact, thirty-nine ought to be included in this category without much violence to the verities of distribution. Only four winter-wheat States east of the Mississippi contribute to the commercial stocks, and the population of these is so large that two-thirds of their production is usually required for bread and seed. Last year the product was 140,000,000 bushels, and the requirements of consumption in round numbers 80,000,000, with at least 10,000,000 bushels to fill depleted reserves, leaving only 50,000,000 bushels available for outside markets during the entire year. It is doubtful if so much has been or shall be drawn out, as in two-thirds of the territory wheat is held mainly for local use. It is doubtful now if much more than 10,000,000 bushels shall prove commercially available, at present prices, in all the winter-wheat region east of the Mississippi. Then there is left Missouri, with little more than home consumption during the last four months of the crop year, and Kansas, which can spare half of her present stocks, to eke out the scanty contributions from the winter-wheat region to the trade of the world.

The apparent anomaly is presented this year of abundant crop, full in the non-commercial sources of wheat, and scanty in the regions of commercial supply; a state of things which naturally obfuscates the commercial mind, which views objects at short range, sees reduced "visible" supplies, and knows nothing and believes nothing that is not "in sight." Foreign buyers act precisely in the same way, and perhaps wisely, refusing to raise a penny till stocks threaten complete exhaustion, being insufficient for a month's consumption. Their motto appears to be "sufficient to the day is the evil thereof." They thus hold prices down to the latest moment possible, and often receive replenishment in season to check an expected advance. They walk "by sight," yet in full faith of succor near at hand.

Some commercial journals, whose editors are endowed with statistical sense, have recognized the peculiarities of the year's distribution of wheat, and realized that while the production of the country is ample, the year's distribution will make a materially lower aggregate, and non-commercial districts will necessarily hold over a portion of their crop. The least grain of common sense, in the absence of the statistical variety, should reach a similar conclusion, aided by a knowledge of the very small crop of 1888, and the almost unprecedented reduction of reserves on the 1st of March of last year. Nevertheless there are commercial editors so unfortunately endowed as to be able to believe nothing that does not favor their deal, or the present views of their speculative friends. Hence they are unable to see the truth, though they will be compelled to admit it after distribution is complete and the census has

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shown the size of the crop of 1889. It has been the uniform experience of this class, who are always bears in the season for buying, and bulls when the farmers have nothing more to sell, that they discredit the official record in the spring, only to find and coolly to acknowledge the truth when the facts of distribution ultimately appear. Such stock-exchange publicists have recently made a very ludicrous exhibition of what they do not know of crop reporting.

The distribution of the crop is thus presented:

	Distribution.	Supply.
	Bushels.	*Bushels.*
Visible supply March 1, 1889		32, 000, 000
In farmers' hands 1889		112, 000, 000
Crop of 1889 (round numbers)		490, 000, 000
Consumption, twelve months	298, 000, 000	
Seed, spring and fall	54, 000, 000	
Exported March 1, 1889, to March 1, 1890	98, 000, 000	
Visible supply March 1, 1890	29, 000, 000	
In farmers' hands March 1, 1890	156, 000, 000	
Total	635, 000, 000	634, 000, 000

Years.	Production.	For food.	For seed.	Exportation.	Total distribution.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1880	498, 549, 868	242, 086, 655	56, 563, 530	186, 321, 514	484, 971, 699
1881	383, 280, 090	235, 249, 812	55, 215, 573	121, 892, 389	412, 357, 774
1882	504, 185, 470	255, 500, 000	52, 770, 312	147, 811, 316	456, 081, 628
1883	421, 086, 160	259, 500, 000	54, 683, 389	111, 534, 182	425, 717, 571
1884	512, 765, 000	265, 000, 000	55, 266, 239	132, 570, 367	452, 836, 606
1885	357, 112, 000	271, 000, 000	51, 474, 906	94, 563, 794	417, 040, 760
1886	457, 218, 000	277, 000, 000	51, 528, 658	153, 804, 970	482, 333, 628
1887	456, 329, 000	283, 000, 000	53, 009, 982	119, 625, 344	435, 635, 326
1888	415, 868, 000	292, 000, 000	54, 012, 702	88, 600, 743	434, 613, 445
Total	4, 006, 393, 588	2, 380, 336, 467	484, 525, 291	1, 156, 726, 619	4, 021, 588, 377
Average	445, 154, 843	264, 481, 830	53, 836, 143	128, 525, 180	446, 843, 153

The estimated production of ten years is 4,496,953,588 bushels, or an average of almost exactly 450,000,000 bushels per annum. In comparing distribution with production we can take only nine years, as the exportation for the crop of 1889 runs six months later. The average production for nine years is 445,154,843, and the average distribution 446,843,153. This is on the basis of 4⅔ bushels per head of population per annum, the actual exports of wheat and flour, and the seed wheat required. On this basis the estimates are about a third of one per cent. less than the distribution. As the estimates have usually fallen a trifle short of the census exhibits of production, it is more probable that consumption has not been overestimated, and altogether conclusive that the irresponsible and unworthy assumptions of habitual overestimate of production, made to prejudice the farmers against the Department, are utterly baseless and false. They would have no influence but for the fact that they occasionally gain access to the commercial or editorial columns of respectable newspapers. Let any one who may have any doubts on this question examine this table and point out any possible error in the calculation, giving facts only in support of his criticism, or forever hold his peace.

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Surplus and distribution by groups of States.

Sections.	Crop of 1889.	Stock on hand March 1, 1889.		Retained for county consumption.		Distribution beyond county lines.	
	Bushels.	*Bushels.*	*Per cent.*	*Bushels.*	*Per cent.*	*Bushels.*	*Per cent.*
New England	1, 088, 000	486, 170	44.7	1, 088, 000	100.0	.....	.....
Middle	28, 357, 000	11, 379, 420	40.1	18, 175, 920	64.1	10, 181, 080	35.9
Southern	41, 105, 000	10, 595, 990	25.8	28, 457, 150	69.2	12, 647, 850	30.8
Western	305, 545, 000	100, 499, 830	32.9	155, 806, 910	51.0	149, 738, 090	49.0
Pacific	57, 470, 000	20, 004, 750	34.8	13, 628, 770	23.7	43, 841, 230	76.3
Nevada, Colorado, and Territories.	56, 995, 000	13, 469, 390	23.6	18, 606, 030	32.6	38, 388, 970	67.4
Total	490, 560, 000	156, 435, 550	31.9	235, 762, 780	48.1	254, 797, 220	51.9

It must not be assumed that this nearly 52 per cent. of the crop estimated to go beyond county lines is sent out of the State. Much less than half of the crop goes beyond State lines. This portion goes to the Middle and Eastern States, to the South in small quantity, and to foreign countries.

Stock on hand and amount retained for home consumption March 1, 1890.

States and Territories.	Crop of 1889.	Stock on hand March 1, 1889.		Consumed in county where grown.		Shipped out of county where grown.	
	Bushels.	*Bushels.*	*P. ct.*	*Bushels.*	*P. ct.*	*Bushels.*	*P. ct.*
Maine	589, 000	282, 720	48	589, 000	100	.....	.....
New Hampshire	144, 000	43, 200	30	144, 000	100	.....	.....
Vermont	325, 000	152, 750	47	325, 000	100	.....	.....
Massachusetts	.....	.....	.....	.....	.....	.....	.....
Rhode Island	.....	.....	.....	.....	.....	.....	.....
Connecticut	30, 000	7, 500	25	30, 000	100	.....	.....
New York	8, 929, 000	3, 571, 600	40	6, 250, 300	70	2, 678, 700	30
New Jersey	1, 711, 000	598, 850	35	1, 283, 250	75	427, 750	25
Pennsylvania	16, 617, 000	6, 812, 970	41	10, 136, 370	61	6, 480, 630	39
Delaware	1, 100, 000	396, 000	36	506, 000	46	594, 000	54
Maryland	6, 171, 000	1, 666, 170	27	2, 900, 370	47	3, 270, 630	53
Virginia	6, 804, 000	2, 041, 200	30	3, 606, 120	53	3, 197, 880	47
North Carolina	4, 492, 000	1, 437, 440	32	4, 087, 720	91	404, 280	9
South Carolina	1, 191, 000	238, 200	20	1, 119, 540	94	71, 460	6
Georgia	2, 383, 000	548, 090	23	2, 216, 190	93	166, 810	7
Florida	.....	.....	.....	.....	.....	.....	.....
Alabama	2, 502, 000	375, 300	15	2, 226, 780	89	275, 220	11
Mississippi	494, 000	118, 560	24	469, 300	95	24, 700	5
Louisiana	.....	.....	.....	.....	.....	.....	.....
Texas	6, 189, 000	1, 361, 580	22	4, 765, 530	77	1, 423, 470	23
Arkansas	1, 794, 000	538, 200	30	1, 614, 600	90	179, 400	10
Tennessee	9, 085, 000	2, 271, 250	25	5, 451, 000	60	3, 634, 000	40
West Virginia	3, 144, 000	1, 163, 280	37	2, 043, 600	65	1, 100, 400	35
Kentucky	10, 811, 000	2, 702, 750	25	5, 837, 940	54	4, 973, 060	46
Ohio	36, 865, 000	12, 902, 750	35	18, 801, 150	51	18, 063, 850	49
Michigan	23, 709, 000	8, 061, 060	34	9, 246, 510	39	14, 462, 490	61
Indiana	41, 187, 000	12, 356, 100	30	16, 062, 930	39	25, 124, 070	61
Illinois	38, 014, 000	10, 643, 920	28	17, 106, 300	45	20, 907, 700	55
Wisconsin	16, 937, 000	6, 436, 060	38	11, 009, 050	65	5, 927, 950	35
Minnesota	45, 456, 000	15, 455, 040	34	23, 182, 560	51	22, 273, 440	49
Iowa	21, 023, 000	7, 778, 510	37	16, 818, 400	80	4, 204, 600	20
Missouri	20, 639, 000	5, 778, 920	28	11, 764, 230	57	8, 874, 770	43
Kansas	30, 912, 000	10, 819, 200	35	12, 983, 040	42	17, 928, 960	58
Nebraska	16, 848, 000	6, 402, 240	38	10, 951, 200	65	5, 896, 800	35
California	43, 781, 000	15, 761, 160	36	10, 069, 630	23	33, 711, 370	77
Oregon	13, 689, 000	4, 243, 590	31	3, 559, 140	26	10, 129, 860	74
Nevada	335, 000	83, 750	25	251, 250	75	83, 750	25
Colorado	1, 851, 000	666, 360	36	777, 420	42	1, 073, 580	58
Arizona	337, 000	101, 100	30	293, 190	87	43, 810	13
Dakota	41, 652, 000	9, 163, 440	22	10, 413, 000	25	31, 239, 000	75
Idaho	1, 449, 000	478, 170	33	1, 086, 750	75	362, 250	25
Montana	1, 569, 000	538, 650	35	1, 200, 420	78	338, 580	22
New Mexico	1, 096, 000	295, 920	27	1, 074, 080	98	21, 920	2
Utah	1, 880, 000	770, 800	41	1, 316, 000	70	564, 000	30
Washington	6, 856, 000	1, 371, 200	20	2, 193, 920	32	4, 662, 080	68
Total	490, 560, 000	156, 435, 550	31.9	235, 762, 780	48.1	254, 797, 220	51.9

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Average farm price of wheat for the years 1875–1889.

States.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.
Kentucky	$1.05	$1.00	$0.99	$0.76	$1.08	$0.93	$1.31	$0.90
Ohio	1.09	1.14	1.24	.86	1.20	1.02	1.29	.95
Michigan	1.15	1.16	1.22	.85	1.17	.97	1.25	.99
Indiana	.97	1.02	1.13	.81	1.17	.99	1.27	.90
Illinois	.91	.93	1.04	.75	1.07	.95	1.22	.86
Wisconsin	.91	1.01	.93	.67	1.04	1.00	1.19	.90
Minnesota	.86	.90	.91	.51	.94	.87	1.06	.82
Iowa	.71	.90	.87	.50	.92	.82	1.06	.76
Missouri	.95	.89	1.00	.67	1.01	.89	1.19	.85
Kansas	.87	.86	.82	.59	.89	.70	1.05	.67
Nebraska	.64	.73	.83	.49	.84	.73	.97	.67
Dakota								.80
United States	1.00	1.037	1.082	.777	1.108	.951	1.193	.882

States.	1883.	1884.	1885.	1886.	1887.	1888.	1889.
Kentucky	$0.95	$0.74	$0.95	$0.72	$0.73	$0.96	$0.72
Ohio	.99	.75	.91	.74	.75	.97	.76
Michigan	.96	.74	.84	.73	.74	.98	.74
Indiana	.95	.67	.86	.70	.72	.94	.71
Illinois	.92	.68	.81	.69	.70	.98	.70
Wisconsin	.88	.60	.76	.68	.64	.90	.70
Minnesota	.80	.50	.70	.61	.59	.92	.71
Iowa	.80	.55	.67	.60	.61	.85	.63
Missouri	.88	.62	.77	.63	.62	.88	.64
Kansas	.78	.45	.65	.58	.61	.89	.55
Nebraska	.70	.42	.57	.47	.53	.83	.52
Dakota	.72	.46	.63	.52	.52	.91	.60
United States	.91	.645	.771	.687	.681	.926	.698

Average export price of wheat.

Years.	Average price.	Years.	Average price.
1874–'75	$1.12	1882–'83	$1.13
1875–'76	1.24	1883–'84	1.07
1876–'77	1.17	1884–'85	.863
1877–'78	1.34	1885–'86	.870
1878–'79	1.07	1886–'87	.890
1879–'80	1.24	1887–'88	.853
1880–'81	1.11	1888–'89	.897
1881–'82	1.19		

WEIGHT PER BUSHEL.

The weight per bushel is determined by an investigation which includes the returns of Department correspondents, State agents and their correspondents, and prominent millers. The aim is to give as nearly as possible the average of all grades of wheat. It is evident that in many estimates which reach us from foreign countries only merchantable wheat is included, sometimes high-grade wheat, so that the figure, if taken as an average of the entire crop, is too high. It is not difficult to find wheat in this country that weighs 60 to 65 pounds per Winchester bushel, which is a little smaller than the imperial English bushel. This is simply justice to the grain of the United States, which

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might otherwise sustain undeserved prejudice. The weight of the last seven crops, as thus estimated, is as follows:

Years.	Weight per bushel.	Measured bushels.	Weight in pounds.	Bushels of 60 pounds.
1883	56.9	420,154,500	23,906,128,850	398,435,481
1884	58.3	512,763,900	29,912,751,800	498,545,863
1885	57.0	357,112,000	20,359,787,000	339,496,449
1886	58.4	457,218,000	26,686,632,000	444,777,202
1887	58.5	456,329,000	26,702,852,300	445,047,538
1888	56.5	415,868,000	23,485,066,800	391,417,782
1889	57.7	490,560,000	28,287,039,600	471,460,663

The average weight per measured bushel of the seven crops is 57.7 pounds. The last crop is, therefore, exactly the average of the seven. In bushels of 60 pounds it makes 471,460,663 bushels; exceeded 27,000,000 commercial bushels by the crop of 1884.

	Weight per bushel.	Bushels of crop, 1889.	Weight.	Bushels of 60 pounds.
Maine	57.0	589,000	33,573,000	559,550
New Hampshire	56.0	144,000	8,064,000	134,400
Vermont	57.0	325,000	18,525,000	308,750
Massachusetts				
Rhode Island				
Connecticut	57.5	30,000	1,725,000	28,750
New York	57.8	8,929,000	516,096,200	8,601,603
New Jersey	58.0	1,711,000	99,238,000	1,653,967
Pennsylvania	58.4	16,617,000	970,432,800	16,173,880
Delaware	57.0	1,100,000	62,700,000	1,045,000
Maryland	57.5	6,171,000	354,832,500	5,913,875
Virginia	57.3	6,804,000	389,869,200	6,497,820
North Carolina	58.0	4,492,000	260,536,000	4,342,267
South Carolina	58.0	1,191,000	69,078,000	1,151,300
Georgia	58.0	2,383,000	138,214,000	2,303,567
Florida				
Alabama	57.3	2,502,000	143,364,600	2,389,410
Mississippi	57.5	494,000	28,405,000	473,417
Louisiana				
Texas	56.3	6,189,000	348,440,700	5,807,345
Arkansas	57.2	1,794,000	102,616,800	1,710,280
Tennessee	58.5	9,085,000	531,472,500	8,857,875
West Virginia	58.0	3,144,000	182,352,000	3,039,200
Kentucky	58.0	10,811,000	627,038,000	10,450,633
Ohio	57.7	36,865,000	2,127,110,500	35,451,842
Michigan	57.0	23,709,000	1,351,413,000	22,523,550
Indiana	57.3	41,187,000	2,360,015,100	39,333,585
Illinois	57.4	38,014,000	2,182,003,600	36,366,727
Wisconsin	57.5	16,937,000	973,877,500	16,231,292
Minnesota	57.5	45,456,000	2,613,720,000	43,562,000
Iowa	56.3	21,023,000	1,183,594,900	19,726,582
Missouri	58.2	20,639,000	1,201,189,800	20,019,830
Kansas	58.0	30,912,000	1,792,896,000	29,881,600
Nebraska	57.0	16,848,000	960,336,000	16,005,600
California	58.3	43,781,000	2,552,432,300	42,540,538
Oregon	59.0	13,689,000	807,651,000	13,460,850
Nevada	59.0	335,000	19,765,000	329,417
Colorado	59.1	1,851,000	109,394,100	1,823,235
Arizona	58.0	337,000	19,546,000	325,767
Dakota	57.5	41,652,000	2,394,990,000	39,916,500
Idaho	58.5	1,449,000	84,766,500	1,412,775
Montana	59.0	1,539,000	90,801,000	1,513,350
New Mexico	58.0	1,096,000	63,568,000	1,059,467
Utah	59.0	1,880,000	110,920,000	1,848,667
Washington	58.5	6,856,000	401,076,000	6,684,600
Total	57.7	490,560,000	28,287,639,600	471,460,663

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RECORDS OF WHEAT INSPECTION.

A very large proportion of our annual wheat crop, at some stage of its progress from the farm to the mill or hold of the export vessel, passes through the hand of an official who is charged with the duty of inspecting it in bulk and assigning it to the proper grade to which its quality and condition entitle it. Early in the history of the wheat trade the inspection was made personally by the buyer, and it was classed solely according to his whim or fancy except so far as influenced by the representations of the seller. This primitive custom still prevails in rural districts where only a few bushels of wheat are purchased by county merchants or local millers, they buying without regard to established commercial grades, discounting the price paid according to their personal views of the quality of the grain. The portion of the aggregate crop, however, which in its first sale is subject to such primitive inspection is very small, and the greater part of this is afterward at some time passed upon by regular official inspectors.

Personal inspection, however, is of course impossible where the volume of business transacted is of any magnitude, and naturally grain buyers in large markets associated themselves, established certain definite rules, and employed a corps of inspectors to work under these rules. This is the method now followed in many markets, and is inspection under the authority of boards of trade, chambers of commerce, and other commercial organizations. It is a system which is, however, open to grave defects; it is under the control of officers representing personal interests, the grades established are not uniform in different markets, and except in the market where inspected full confidence is not given to the declared results of the inspection.

In some States, notably Illinois and Minnesota, the legislatures have established a system of inspection and grading, under the control of State officials. This secures uniformity of grades and removes those charged with the execution of the work from the influence of personal interest in the grain handled.

Taking the records of inspection in the principal markets for a series of years, the average quality of a given crop may be approximately determined, and the variations of quality in different sections of the wheat belt may be ascertained by an examination of the records of the markets to which the fields are tributary. The following tables are not intended to show the total amount of wheat handled or even inspected in each market given, but give merely the inspections of wheat received by railroad lines. In some of these, and in other markets which are not given, a large amount of grain is brought in by water.

The records for New York show that during the past four years winter wheat has constituted 69.8 per cent. of the bulk inspected, and that the aggregate amount handled has declined annually since 1887. During four years past but 6.5 per cent. of the winter wheat graded as State and Extra, the standard for these grades requiring that the grain

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should be bright, sound, dry, plump, and well cleaned. During the last two years the quality of the winter wheat handled has been below the average. In 1889 only 32.2 per cent. of the total were of the first three grades, while the average for four years is 51.0. The quality of spring wheat handled last year was better than usual, 58.1 per cent. grading as No. 1, against an average of 36 per cent. during four years past:

NEW YORK.

Grades.	1886.		1887.		1888.		1889.		Average for four years.	
	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.
Winter:										
State and Extra	1,490	9.7	945	5.5	85	1.5	162	6.1	670	6.5
No. 1	934	5.9	2,175	12.7	102	1.8	18	.7	800	7.8
No. 2	4,734	30.7	8,176	47.5	1,449	25.3	667	25.4	3,757	36.7
No. 3	2,693	17.5	797	4.6	1,370	23.9	633	24.1	1,373	13.4
All other	5,585	36.3	5,106	29.7	2,732	47.6	1,149	43.7	3,643	35.6
Spring:										
No. 1	465	17.2	3,268	30.6	1,413	64.9	1,229	58.1	1,594	36.0
No. 2	762	28.1	3,360	31.4	298	13.7	263	12.4	1,171	26.5
No. 3	1	.....	1	.....	.....	.....	.....	.....	.....	.....
All other	1,476	54.6	4,064	38.0	464	21.3	624	29.5	1,657	37.5
Total	18,110	.....	27,892	.....	7,913	.....	4,745	.....	14,665	.....
Winter	15,406	.....	17,199	.....	5,738	.....	2,629	.....	10,243	69.8
Spring	2,704	.....	10,693	.....	2,175	.....	2,116	.....	4,422	30.2

During 1889 the quality of wheat inspected in Chicago, both spring and winter, was below the average. No. 1 winter wheat must be sound, plump, and well-cleaned, but during the past year not one car of this grade was received. The best wheat handled in this market during six years past was in 1887, when 77.4 per cent. graded as No. 1 and No. 2, while last year less than one-third as much, or 22.6 per cent., graded as high. During the past six years spring wheat has constituted but little less than two-thirds of the wheat handled in Chicago, yet in 1889 it made up but 36.5 per cent. of the whole, and that of a quality below the usual average:

CHICAGO.

Grades.	1884.		1885.		1886.		1887.		1888.		1889.		Average for six years.	
	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.
Winter:														
No. 1	5	....	9	.3	238	2.2	92	.9	8	....	.....	...	59	.5
No. 2	2,997	20.9	1,212	35.2	7,011	64.6	7,786	76.5	3,763	26.0	5,282	22.6	4,675	36.6
No. 3	7,671	53.4	1,517	44.1	2,601	23.9	1,931	19.0	7,601	52.2	14,276	61.2	5,933	46.4
Below No. 3	3,603	25.7	702	20.4	1,011	9.3	363	3.6	3,167	21.8	3,766	16.2	2,117	16.5
Spring:														
No. 1	40	.1	5	....	32	.1	5	....	.....	...	2	..	14	.1
No. 2	19,265	62.6	18,050	51.4	13,206	56.7	19,250	62.4	4,746	39.6	6,593	49.2	13,518	55.7
No. 3	9,251	30.1	13,491	38.4	7,842	33.7	8,743	28.3	5,059	42.2	4,306	32.1	8,115	33.5
Below No. 3	2,210	7.2	3,591	10.2	2,219	9.5	2,874	9.3	2,188	18.2	2,504	18.7	2,598	10.7
Total	45,132	....	38,577	....	34,160	..	41,044	....	26,530	....	36,729	..	37,029	....
Winter	14,366	31.8	3,440	8.9	10,861	31.8	10,172	19.9	14,537	54.8	23,324	63.5	12,784	34.5
Spring	30,766	68.2	35,137	91.1	23,299	68.2	30,872	80.1	11,993	45.2	13,405	36.5	24,245	65.5

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ST. LOUIS.

St. Louis handles almost exclusively winter grain, the proportion of spring wheat averaging less than 3 per cent. The inspections last year showed the quality of winter wheat superior to that handled in 1888, but somewhat lower than the average of the past six years. Only sixty-nine cars of spring grain were inspected and of this sixty-three cars or more than 90 per cent. were classed as rejected. This shows a surprising proportion of damaged wheat, the average receipts of this grade being but 15.8 per cent.

Grades.	1884.		1885.		1886.		1887.		1888.		1889.		Average for six years.	
	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.
Winter:														
No. 1	8	....	.....	....	2	....	.....	....	.....	....	2	....	2	....
No. 2	7,944	37.0	6,921	48.5	8,185	59.6	10,308	61.8	3,274	22.0	5,724	39.8	7,069	44.4
No. 3	6,874	32.1	3,996	28.0	3,457	25.2	4,770	28.5	6,120	41.1	4,787	33.3	5,002	31.4
No. 4	2,713	12.7	1,181	8.3	952	6.9	827	4.9	2,670	17.9	1,317	9.2	1,610	10.1
Rejected	3,436	16.0	1,802	12.6	979	7.1	710	4.2	2,360	15.8	2,227	15.5	1,919	12.1
Other	473	2.2	365	2.6	169	1.2	102	.6	477	3.2	331	2.2	320	2.0
Spring:														
No. 1	.....	..	19	1.3	1	.1	.....	..	.....	..	.....	....	3	.7
No. 2	108	45.8	966	66.2	163	22.8	16	17.6	24	17.9	2	2.9	213	47.3
No. 3	63	26.7	287	19.7	499	69.7	46	50.5	68	50.7	2	2.9	161	35.8
Rejected	60	25.4	187	12.8	50	7.0	29	31.9	38	28.4	63	91.3	71	15.8
Other	5	2.1	.....	....	3	.4	.....	....	4	3.0	2	2.9	2	.4
Total	21,684	..	15,724	....	14,460	..	16,868	....	15,044	....	14,457	....	16,372	....
Winter	21,448	98.9	14,265	90.7	13,744	95.0	16,777	99.5	14,910	99.1	14,388	99.5	15,922	97.2
Spring	236	1.1	1,459	9.3	716	5.0	91	.5	134	.9	69	.5	450	2.8

MILWAUKEE.

Milwaukee, situated in the heart of the great spring-wheat belt, naturally deals almost exclusively in spring grown grain, the average being almost 94 per cent. of the whole, and as in all other markets the quality of the wheat inspected during 1889 was below the average. Only 43.9 per cent. graded as high as No. 3, against an average for five years of 67.4. The inferior quality and smaller product of spring wheat caused an increase in the receipts of winter grain, the proportion being 21.5 per cent. against an average of only 4.7 per cent.

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Grades.	1885.		1886.		1887.		1888.		1889.		Average for five years.	
	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.
Spring:												
No. 1	53	.3	6	.....	25	.2	41	.3	603	9.2	146	1.1
No. 2	7,634	45.4	4,945	35.5	4,198	30.8	3,469	25.4	596	9.1	4,168	32.3
No. 3	5,278	31.4	5,976	43.0	5,171	37.9	3,870	28.3	1,675	25.6	4,394	34.0
No. 4	2,048	12.2	1,792	12.9	3,021	22.1	4,339	31.7	2,726	41.6	2,785	21.6
All other	1,800	10.7	1,192	8.6	1,234	9.0	1,948	14.3	951	14.5	1,425	11.0
Winter:												
No. 1	3	.7	2	.4	.....	.....	.....	.....	.....	.....	1	.2
No. 2	204	45.8	126	26.8	73	34.4	107	55.4	595	26.5	203	31.5
No. 3	231	51.9	326	69.4	139	65.6	78	40.4	1,058	55.5	366	56.7
All other	7	1.6	16	3.4	.....	.....	8	4.2	344	18.0	75	11.6
Mixed winter and spring:												
No. 2	149	51.6	16	17.6	63	49.2	43	53.1	256	63.4	106	53.1
No. 3	140	48.4	75	82.4	65	50.8	38	46.9	148	36.6	93	46.9
Total	17,547	.....	14,472	.....	13,989	.....	13,941	.....	8,862	.....	13,762	.....
Spring	16,813	95.8	13,911	96.1	13,649	97.6	13,667	98.0	6,551	73.9	12,918	93.8
Winter	445	2.5	470	3.3	212	1.5	193	1.4	1,997	21.5	645	4.7
Mixed winter and spring	289	1.7	91	.6	128	.9	81	.6	404	4.6	199	1.5

DETROIT.

The quantity of wheat inspected in Detroit during 1889 was but little more than six-tenths of the average of the past six years, and the quality was fully as much depreciated. Usually 82.3 per cent. has graded as high as No. 2, but last season the first two grades only made 63.8 per cent. of the whole.

Grades.	1884.		1885.		1886.		1887.		1888.		1889.		Average for six years.	
	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.	Cars.	Per cent.
No. 1	5,118	31.1	5,137	29.8	4,992	28.4	3,982	27.9	3,012	22.0	1,569	17.6	3,968	27.0
No. 2	8,272	50.3	9,827	57.0	10,678	60.9	9,510	66.5	5,963	43.6	4,127	46.2	8,063	54.9
No. 3	2,007	12.2	1,073	6.2	995	5.7	162	1.1	3,582	26.2	2,373	26.5	1,699	11.6
All other	1,041	6.4	1,209	7.0	882	5.0	646	4.5	1,121	8.2	807	9.7	961	6.5
Total	16,438	.....	17,240	.....	17,547	.....	14,300	.....	13,678	.....	8,936	.....	14,691	.....

MINNEAPOLIS.

The record for 1889 shows that the quality of wheat handled in Minneapolis last year was the poorest in quality during the past six years. But 55.8 per cent. graded as No. 1, against an average of 63.2.

Grades.	1884.		1885.		1886.		1887.		1888.		1889.		Average for six years.	
	Cars.	per cent.	Cars.	per cent.	Cars.	per cent.	Cars.	per cent.	Cars.	per cent	Cars.	per cent.	Cars.	per cent.
No. 1	30,867	58.9	33,279	60.0	42,324	71.4	59,002	76.4	38,872	55.1	39,822	55.8	40,696	63.2
No. 2	11,391	21.7	13,494	24.4	10,507	17.7	10,578	13.7	15,407	21.8	13,407	18.8	12,463	19.3
No. 3	548	1.0	547	1.0	1,826	3.1	1,797	2.3	4,442	6.3	6,060	8.5	2,537	3.9
Rejected	7,581	14.5	6,651	12.0	3,764	6.3	2,365	3.1	6,773	9.6	4,888	6.9	5,337	8.4
Other	2,050	3.9	1,462	2.6	891	1.5	3,471	4.5	5,057	7.2	7,142	10.0	3,346	5.2
Total	52,437	100.0	55,433	100.0	59,322	100.0	77,209	100.0	70,551	100.0	71,319	100.0	64,379	100.0

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NOTES FROM REPORTS OF STATE AGENTS.

NEW YORK.

The season of 1889 was not favorable for the growth of corn, as there was so much wet weather with a lack of sunshine and warmth. The frosts were not severe enough to injure the crop until October in most of the State, therefore much of the corn reached a degree of maturity which gave it some value which it would not have had if the frosts had come in the early part of September.

There is a large extension of the area of corn grown for fodder, and many farmers are resorting to the use of the silo as a means of preserving the corn crop. The corn for silage is now grown thin enough on the ground by the best farmers to produce ears, and it is put into the silo ears and all and fed in this form. This system saves the husking and grinding of the corn for economical use as cattle food. It is also used in the form of silage for hogs, sheep, and horses, coupled with wheat bran, linseed meal, and rye bran with wheat middlings and rye middlings. In Oneida County, within a radius of 10 miles, during the past year thirty silos were constructed. The extension of this form of preserving and utilizing the corn crop the past year has been very great.

Farmers are becoming discouraged in depending upon the sale of hay as a leading crop, as the net returns, the past year, have been very small. Thousands of tons of hay have been sold which have not afforded a net income of more than $4 per ton and a very large amount has not netted more than $2. When we take into the account that with the sale of every ton of hay on the average, there is taken from the farm not less than $5 worth of nitrogen phosphoric acid and potash, the results of this form of farming are still more discouraging.

No county produces the amount of corn fed within its borders. Very little corn is sold to go out of the county where grown. Farmers try to hold as much as possible for summer use. Farmers are learning to mix bran with corn meal for feeding stocks as this combination gives better results, by aiding in the better digestion and assimilation of the corn meal, and in furnishing a better balanced ration with more material for muscle and bone. It also results in distributing the fat more through the tissue, and in making meat "marbled" as it is called, instead of creating masses of tallow or lard. There is a considerable quantity of fodder-corn in the fields at this date. The wet weather in the autumn made it impossible to put it into stacks or mows and the open muddy winter has made it difficult to haul to the barn.

Wheat was injured by the frosts of May and the excessively wet weather, and for these reasons the berry is not as plump and full as an average. The variations in regard to the shipment of wheat and the consumption in the counties where grown, are about the same from year to year. The rules in regard to holding wheat are quite uniform, as the farmers who hold wheat for their own use belong to the conservative class. The tendency is to grow less wheat for sale and to produce more rye, as the straw is a better crop for sale.

PENNSYLVANIA.

Comparatively little corn was sold this year during the month of January, because it was not dry enough to shell, and also because prices were very low. During February, however, farmers have been shelling out and marketing their corn pretty rapidly. The great bulk of Pennsylvania corn which is sold at wholesale to millers, dealers, and shippers, is usually marketed between February 1 and April 1. Nearly all of the remainder is shelled out and marketed in May, immediately after corn planting is finished. The corn crop, though large in quantity, has fallen below an average in quality owing to the excessive wetness of the season. The crop on some lands could not be properly cultivated and became overgrown with weeds. Quite

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an appreciable amount of damage was also done, after the corn was put in shocks, by the continuous and excessive rain fall.

The wheat crop is nearly all threshed out before December 1st. A very few farmers, who follow the old way, and do their own threshing, still make a winter job of it. The crop is now usually marketed earlier than formerly. It is surprising to see how rapidly consumption is overtaking production of wheat in this State. Many counties which formerly produced a large surplus now consume all their own wheat, and some much more. There is another fact of interest to our farmers. Our millers say that the bakers are becoming much more critical in their purchases of flour. Pennsylvania wheat is no longer good enough for them. They must have flour made of western spring wheat. Thus our home-grown wheat is being crowded out of our home markets by wheat grown in Dakota and other far western States.

VIRGINIA.

Although the corn crop was short in the aggregate, a comparatively good quantity remains on hand, owing, no doubt, to the mildness of the winter. Several counties, however, are almost entirely without corn of their own raising, and have to buy. The price of corn is quoted as low as 30 cents per bushel in some of the largest corn-raising counties; whereas, in others, it is as high as 75 cents. The average is a little higher than usual, made so by the necessities of such counties as suffered from freshets, and others remote from transportation lines. Wheat is reported as lighter than usual in weight. In many sections it sprouted badly. Less forage has been consumed in Virginia this winter, in all probability, than ever before. Farm work is farther advanced than it has been for years at this season.

NORTH CAROLINA.

We do not produce enough corn and wheat for home consumption. While a few counties report a small per cent. "shipped out of county," more is shipped into the State than goes out. In the tide water section peanuts, sweet potatoes, cotton, and rice are depended upon as money crops, while in the mountains the grain is turned into cattle and whisky; the middle section, which is really the wheat belt of the State, gives its chief attention to tobacco.

LOUISIANA.

Although the corn crop of 1889 was in excess of an average, owing both to increase of yield and acreage, and the mildness of the season has enabled farmers to economize feed without detriment to their stock, still there will be no surplus on hand; on the contrary, a slight deficiency. This deficiency, however, is growing less every year.

The long continued dry and warm weather ended on February 28. A heavy rainstorm culminated in a severe freeze. The damage done to the fruit and vegetable crops is doubtless very large. Peaches are destroyed and many early gardens completely ruined. About the extent of the injury to the cane crop there seems to be a difference of opinion. Grave apprehensions are felt that the damage will be considerable. The soil is now in excellent condition for working and farmers are beginning active preparations for the coming crop.

ARKANSAS.

The amount of corn reported as on hand for consumption is much larger than usual at this season of the year. This fact is due to two causes: First, that the corn crop of 1889 was much larger and of better quality than that of former years, and second, owing to the unusual mildness of the past winter, the amount consumed by feeding stock has been much less than formerly.

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The wheat crop was also somewhat better than the average, and in point of quality seems to be equally as good if not somewhat better than an average. This latter cereal is not grown to any considerable extent, except in a few counties, not for the reason that a large area of the State is not adapted to its production, but rather that the growing of cotton is given precedence, and mixed farming has not received the attention that it should, more especially in the counties adjacent to the "cotton belt" proper. This has in a measure retarded efforts at wheat-growing, as there is no concert of action on the part of our farmers, who are disposed to grow more grain and less cotton, the result being that there are few mills adapted to the manufacture of flour or facilities for converting the same into any form of breadstuff.

Up to March 1 the winter had been unusually mild, and vegetation was in a very forward state. The grasses on the ranges, in meadows, and pastures were at least a month in advance of the season, with not even more than two slight freezes and an occasional light frost, up to that date, but on the morning of the 1st occurred a cold rain-storm, followed by a heavy sleet; this was succeeded by some forty-eight hours of cold freezing weather, which has doubtless greatly injured our prospects for an abundant fruit crop this season.

OHIO.

There is a larger per cent. of the last corn crop on hand than usual. This is owing largely to the open and warm winter which has rendered unnecessary the feeding of grain to the customary extent. The last was a short crop with much soft corn, but the producers have found it possible to work off the bulk of that unmerchantable, thus leaving a balance of fair quality nearly as large as on previous years. There is a disposition to feed this balance rather than accept current low prices, so that a slightly increased per cent. of the product will be consumed in the locality of production, lessening the amount shipped out of the county or State.

Bad roads caused by long winter rains and absence of freezing weather have delayed the getting into market much of the surplus wheat. This, together with a small per cent. of old wheat still unsold and low prices, finds a greater amount of wheat in first hands than is usual at this time of the year. Growing wheat looks well and from all parts of the State is reported in good condition.

MICHIGAN.

Only seven counties report any corn sold to go out of the State. The real situation is that Michigan has become a feeding State, and much more corn is fed than is raised. Large quantities are shipped from the West for that purpose.

INDIANA.

The low price of corn has caused a much larger per cent. of the crop to be on hand March 1 than usual. Even at the low price of stock farmers find it more profitable to feed than to sell their corn.

ILLINOIS.

About one-half of the corn crop of 1889 remains on hand March 1. This may appear very large, but is accounted for, first, by the unusually mild winter, requiring less grain to be fed to stock, and, second, the condition of the roads being so bad most of the winter that little hauling could be done. The price of corn has been so very low, too, as to retard sales. There is very little corn yet in the field in the northern or in the central parts of the State—about 1 per cent.—and this is in shock; in the southern division, 4 per cent.

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The wheat crop of 1889 was 4,458,000 bushels larger than that of the previous year, and the quality slightly better. The condition of the wheat crop now growing, so far as reported upon, is generally promising. In a few localities there is some injury by the Hessian fly, some damage from high water, and occasional mention of injury from winter-killing.

WISCONSIN.

A great deal of Nebraska corn is being shipped into the State for feeding fat cattle, sheep, and hogs. The pineries of Wisconsin create a good demand for corn and oats, and the product of many of the northern counties, with the exception of that retained for home consumption, finds a ready market at fair prices.

There exists among the farmers a wide-spread feeling of discontent on account of the low prices of all products of the farm. In those localities where dairying has become general, hard times are not felt, and better class of farm homes are found, and a generally prosperous condition of affairs exist.

IOWA.

Owing to the exceedingly mild winter weather in connection with a very large crop and rather unsatisfactory prices there is more corn on hand March 1 than usual. The soft corn has all been fed out and what remains is merchantable and in good condition. In three-fourths of the counties the entire crop was merchantable, but the early frosts injured a small portion in some of the northern counties. The quality of the wheat crop was better than the average and there was but very little damage by either insect or rust.

MISSOURI.

The proportion of the corn crop of 1889 on hand at this date is larger than that of 1888 on hand at same date one year ago. This is but a natural result of a very large crop, low prices of corn and cattle, and a remarkably mild and favorable winter for feeding. A large supply and a small demand inevitably leave a large surplus in the producers' hands. The proportion of the corn on hand that is merchantable is greater than was that of the 1888 crop. Prices at this date are considerably below those prevailing one year ago.

A large crop of wheat and lower prices have increased the stock on hand at this date. The quality is better than last year.

KANSAS.

The season of 1889 was very favorable for the production of corn and wheat, and unusually large crops of high grade were made, but low prices have seriously retarded the movement of the surplus. While wheat now commands a price sufficient to induce farmers to sell, and in view of the extraordinary yield, to realize fair compensation, corn continues low, too low to meet the cost of production.

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AGRICULTURAL DEPRESSION AND ITS CAUSES.

There is almost universal complaint among farmers of all nations of the prevalence of low prices. The agricultural depression of Great Britain has probably been more severe than that of any other nation. A potent cause in this case is the competition from all parts of the world unrelieved by any taxation of imports. France and Germany are somewhat disturbed by similar complaints of unremunerative rural industry. Italy has also had occasion to make official investigation of the causes of agricultural depression. Other countries are vocal with similar cries of dissatisfaction with the proceeds of agricultural labor. So the trouble appears to be general in monarchies and republics, whether the monetary circulation is gold or silver or paper, and under the influence of various and diverse economic systems.

Not all countries are in the same depths of distress. In ours farmers and farm laborers are doubtless better fed and clothed, able to maintain a higher style of living, and enjoy more of the benefits of civilization and culture than those of any other country. It may be said with absolute truth that in thirty years the scale of living has advanced immensely in this country, not equally in all sections, but manifestly everywhere. There is a tendency to extravagance in town life that has been imitated in rural circles, and the natural ambition for progress and precedence, when generally aroused, will express itself in dissatisfaction with prevailing conditions and a determination to overpower all obstacles to advancement. This is a hopeful sign. It is an indication of conscious dignity. It is a prophecy of progress.

While, therefore, our own country feels the effect of agricultural depression less than almost any other in the world, the reduction in prices of most staples, and in domestic animals and their products, forces a disagreeable comparison with agricultural values at their highest, compels reduced expenditure to keep outgo subordinate to income, increases the number of unfortunates who can not make "both ends meet," and reduces the profits of the enterprising and skillful who are still able to strike a balance in their favor. Retrenchment is not an agreeable alternative, and is therefore delayed until its compulsion is imperative and perhaps destructive. "The times" are universally regarded as "hard" in comparison with more prosperous eras of the past.

It matters not that the prices of implements, utensils, and fabrics, of goods desired by the farmer, have been reduced proportionally; his interest account, if he has one, is unreduced, and his mortgage is a greater burden to lift. He sighs for the good old days of high prices, though they may have been war or famine prices, necessarily temporary, and though they may have been the source of extravagant views, unnecessary expenditure, and the foundation of his present indebtedness. He naturally resents and deplores low valuation of farm products. What are the causes of low prices? They may be various, but the

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prime cause is the operation of the inexorable law of supply and demand. Abundance leads inevitably to low prices; scarcity to high prices. With either there is fluctuation, a see-saw of prices which increases cost and reduces profit. Medium and uniform values are therefore best for the farmer.

There has been an increase of production in this country even more rapid than the increment of population. America has long been the synonym of plethora. Her people probably consume more than those of any other nation, and have a larger surplus for foreign needs. Immigration has been heavy and unrestricted; railroad building has been stimulated until an empire of new and productive lands has been opened; and these lands have been given *ad libitum* to settlers of native or foreign birth. Speculation first, and profitable utilization afterwards, have been the motive for settlement and development which have astonished the world and caused overproduction and low prices. The following statement shows the increase in thirty years in certain products of the farm, as reported by the Census:

Products.	1849.	1859.	1869.	1879.
Corn.....bushels..	592, 071, 104	838, 792, 742	760, 944, 549	1, 754, 591, 676
Wheat.....do....	100, 485, 944	173, 104, 924	287, 745, 626	459, 483, 137
Oats.....do....	146, 584, 179	172, 643, 185	282, 107, 157	407, 858, 999
Potatoes.....do....	65, 797, 899	111, 148, 867	143, 337, 473	169, 458, 539
Cotton.....bales..	2, 469, 093	5, 387, 052	3, 011, 996	5, 755, 359
Hay.....tons..	13, 838, 642	19, 083, 896	27, 816, 048	35, 150, 711

If we extend the comparison to the present date, we find that the corn crop exceeds 2,000,000,000 bushels, wheat approximates 500,000,000, oats exceed 700,000,000, and hay and potatoes have increased in similar proportion. While the product may be three or four times as large, the population is less than three times as much, though the proportion of workers engaged in agriculture was larger than now.

During the forty years from 1850 to the present time the cotton product increased from a little over 2,000,000 bales to more than 7,000,000 bales. Cattle have also increased very rapidly; cows from between 6,000,000 and 7,000,000 to about 16,000,000; other cattle from scarcely 12,000,000 to more than 36,000,000. While sheep have doubled in numbers the wool production has quadrupled. While the milch cows are almost three times as many their average rate of yield of milk has probably doubled. The improvement of other cattle, through breeding and feeding, has reduced the time required for maturity and increased the weight of carcass to such an extent that the amount of beef produced annually in proportion to numbers of animals kept is immensely increased. Relative numbers, in comparison with the past, in all kinds of domestic animals, have far less significance than improvement in weight and quality, in thriftiness and early maturity.

It is difficult to force a market abroad for a surplus of any product. Every nation is seeking to produce its own food, and as far as possible

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its raw materials for extension in all forms of industrial production. The instinct of self-preservation compels the adoption of such a policy. This furnishes the motive for the corn laws of France and Germany and other continental countries, and the laws of European nations prohibiting the introduction of our pork products. We can not sell our crops abroad, as a rule, except to fill the gaps in supply that are made by bad seasons or other results of the inevitable or inexorable. When Senator Sumner once proposed to levy an export tax of 20 cents per per pound on tobacco and compel a tribute from foreigners, he was soon convinced by practical tobacco men that its only effect would be to destroy our exportation, and he at once abandoned the idea. The amount grown in Europe and the quantity imported are both regulated by governmental control there, and never by Government or growers here, and under the influence of this regulation the proportion of our crop exported is declining, being reduced slightly below one-half, and nothing that our Government or growers can do will change this fact.

In cotton this country enjoys an acknowledged superiority, and will doubtless continue to hold it. It supplies to the cotton factories of the world more than half their material. It can increase this supply, with the inevitable effect of reducing the price. The sale does not depend on our purchases abroad. Its aggregate would not be reduced a pound if we should refuse to spend a single dollar for foreign products. The mills must have the fiber, and nowhere else can it be had of so good quality and value. We can manufacture more of it here, and thus increase foreign competition for it, but the product can not be enlarged beyond the current wants of the world's trade without reducing the price of fiber and fabric. Thus the law of supply and demand limit the extension of cotton fields.

In wheat overproduction has destroyed the grower's profit. Wheat growing has become a philanthropic mission for supplying cheap bread to Great Britain and encouraging her manufacturers to keep wages on a low plane. The northwestern missionaries are still diligently sowing their seed and floating their bread across the waters, and mourning that the profits do not return to them after many days of weary transportation. The area of the crop of 1889 included about ten million acres more than the home consumption of the year will require; and the price in Liverpool has of late been the lowest for a century.

We can not force foreigners to buy our bread. There has been a mass of ineffable nonsense regarding "the markets of the world" for wheat. Less than a fourth of the people of the world eat wheat. Half of the people of Europe scarcely know its taste, while few of the nations of Asia and Africa have any knowledge of it. Elsewhere the statistician has thus presented the limitations of our distribution of the wheat surplus:

South America is now no market for flour, as more wheat is grown there than is required for domestic consumption, and an annually enlarging outlet for wheat is now sought in the distribution of the surplus. Australasia makes more than a home

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supply. India has a surplus of 10 to 15 per cent. Eastern Europe always has wheat to sell, leaving only western Europe to supplement its nearly full garners with the contributions of all other countries, those of Europe included. Of the average 4 bushels consumed by each inhabitant of Europe, only a half bushel comes from other continents, and this is practically the measure of the market for the wheat surplus of the world, a market which neither reciprocity nor the persuasion of any international comity can enlarge—nothing but war, famine, or pestilence, nothing but an act of God or a change of crop distribution utterly at variance with long settled policy and practical sense, can swell to sudden importance the demand for wheat and flour that will relieve prevailing stagnation and advance prices.

The production of meat has also advanced faster than population. In 1880 the cattle of all kinds were returned as 39,675,533, and the numbers as now estimated, on farms and ranches, are 52,801,907, or 33 per cent. more. Excluding cows, the increase of other cattle, which includes the beeves, is equivalent to about 40 per cent. Then beeves are brought to maturity more rapidly than formerly, and more meat is made in proportion to numbers, so that the beef supply is greater than in 1880 in proportion to population. The ratio of supply has been very greatly increased since 1850. Our export of beef has grown up in the past thirteen years, and the export of cattle has not only increased, but its character has changed from the shipment of Texas or Florida longhorns to Cuba to the export of fat beeves to Europe, one of which commands the price of five of the original style of Gulf Coast cattle. This difference represents not precisely the meat-making capacity of the cattle of 1850 and 1890 respectively, but it suggests the wide disparity between the ratio of meat to numbers of cattle at the two dates.

The following table of prices of beeves in Chicago shows that the present values are lower than in any year since the export of beef was inaugurated, with the sole exception of 1879. Prices increased till 1884, when they were highest, and fell heavily in 1886, advancing slightly in 1887, except as to the extra grade, and recovering further in 1888, only to continue a decline during the past two years:

Beef cattle.	Extra.	Choice.	Good.	Medium.
1876		$5.25 to $4.75	$4.50 to $5.10	$4.00 to $1.50
1877		5.00 5.50	4.50 4.80	3.80 4.40
1878	$5.15 to $5.40	4.50 4.90	4.00 4.40	3.50 3.85
1879	4.60 5.00	4.10 4.35	3.60 4.00	3.00 3.50
1880	5.00 5.25	4.60 4.75		*3.50 4.40
1881	5.75 6.25	4.85 5.40		*3.75 4.65
1882	6.50 6.85	5.85 6.35	4.50 to 5.15	
1883	6.25 6.50	5.80 6.10	5.40 5.70	4.40 to 5.00
1884	7.00 7.25	6.30 6.40	6.00 6.25	4.50 5.00
1885	6.65 6.85	6.25 6.60	5.75 6.10	5.00 5.50
1886	5.17 5.70	4.30 5.00	3.85 4.55	3.50 4.15
1887	5.00 5.15	4.75 5.00	4.20 4.50	3.75 4.10
1888	5.25 5.50	4.85 5.15	4.25 4.60	4.00 4.20
1889	5.00 5.25	4.65 4.90	4.25 4.50	3.65 4.00
1890	4.90 5.20	4.50 4.75	4.00 4.40	3.25 3.90

*Good to medium includes two grades.

Thus the staple products of agriculture, by increase of farms, by railroad building and land settlement, and the increase of agricultural implements, are grown to excess, while other products with which our

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farmers are not familiar are neglected, and left to foreign labor to produce, while our own rural labor is only partially employed, or else is crowding production of these old staples, and still further lowering prices and intensifying dissatisfaction with the results of agricultural effort.

It is futile to attempt to defy the law of supply and demand. So long as farmers insist on growing only the bread grains, cotton, tobacco, and cattle, and to neglect other products which are needed, which we import at a cost of more than $200,000,000 annually, just so long will the lamentation over low prices continue. Diversification is essential to agricultural salvation. There are writers and speakers who are doing incalculable injury by their influence in repression of any tendency to a wider range of rural production, encouraging indolence and idleness, paralyzing enterprise, intensifying rural inertia, and encouraging dependence on foreign production, and the draining of the resources of the country to foreign lands. They appear to deprecate any effort towards independence or the cultivation of self-reliance, the stimulation of invention, the acquisition of manual skill, or the development of rural taste. Their advice points in the direction of aimless poverty and practical serfdom.

The agricultural exports of the United States during the past year amounted to about $530,000,000 at the sea-ports, or about $400,000,000 on the farms. The agricultural imports amounted to over $348,000,000 at ports of shipment, and fully $400,000,000 with freights and commissions added, without further allowance for undervaluation. Thus it takes most of our agricultural exports to pay for agricultural imports. These imports are largely food and fibers. The heavier items for 1888–'89 were as follows:

Sugar and molasses	$93,297,868
Animals and their products, except wool	40,419,502
Fibers, animal and vegetable	59,453,936
Fruits and nuts	18,746,417
Barley and other cereals	8,971,722
Tobacco, leaf	10,868,226
Wines	7,706,772
Total	$239,464,443

Most of this importation should be produced here and many minor products not named; in fact, there is little on the list, except tea and coffee, that should be imported. There are many plants yielding fruits, dyes, medicines, and other products useful in the arts or for food that could be profitably grown, after suitable experiment, for the supply of a demand already existing or to be created, and utilizing rural labor and increasing the wealth of the country.

There is a further cause of low prices, which farmers should understand, very difficult to remedy, demanding serious consideration and wise action. It is found in the combination of carriers and middle-men

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to absorb a large share of the proceeds of the sale of farm products. Beeves are sold by growers for seven-tenths to three-fourths of the prices of a few years ago, and the meat is sold to consumers in the retail markets at little if any reduction from the highest prices of the last twenty years. For instance, prime rib roasts have been sold in Washington during that period for 20 cents per pound, and sirloin steaks for the same. There has been little variation, as a general rule, in the prices of the less valuable cuts. The same complaint comes from consumers in other cities.

Another aspect of the case bears upon the inexperienced buyer. The meat that is bought at $3.50 to $4 per hundred live-weight is sold to the consumer at practically the same prices as that which cost $4.50 to $5. Rarely is there a difference made in the selling prices of cuts from beeves of different quality. If such difference is ever observed, it is more frequently made in regard to meat which a good judge of beef would hesitate to buy at all. Unfortunately there are thousands of poor people who do not know the difference between good and poor quality, and they are the most easily imposed upon. The increasing swarm of dealers in regular markets and provision stores show that numbers of people are living off the difference between wholesale and retail beef.

All kinds of meats, vegetables, and fruits furnish similarly subsistence to armies of middlemen. Milk is bought from farms, for the supply of New York, for less than 3 cents per quart, and sold to consumers for 8 cents. The hucksters of city markets often get as much for handling a product, in a single day, as the grower obtained for producing it during a season's growth. The contrast between the price of fruit on the farm and in a city market is a suggestion of greed and extortion. In many markets the prices of variable products are fixed for the day at early dawn, not with reference to their cost but in view of the comparative quantity, to squeeze from the buyer the last cent that his patience will endure without declining a purchase. The poor are robbed still further, when a commodity costs 25 cents a peck, by a charge of 15 cents for half a peck, which is a clear penalty of 20 per cent. for buying in small quantities. Thus by every imaginable trick of trade the cost of buying is increased, while the producer gets less and less for his products.

The army of dealers in futures who bet upon the price of grain in the coming months, and bend their energies to shape prices to suit their deals, do other injury than merely to prey on each other; they disturb the natural flow of trade, and check exportation by a temporary rise in values, which leads inevitably to lower prices later and greater fluctuations, which are the meat and life of this class and the bane of the farmer's market for wheat. The actual buyer of grain, if a speculator and not merely a commission merchant and forwarder, may scheme to depress prices while buying and to boom them in selling, to the great in-

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ury of the grower. The honest and legitimate business of receiving and forwarding grain, or that of the buyer who is a conscientious merchant and not a professional manipulator of prices, helps rather than hurts the farmer; but the others, who play games of chance disguised as business, are the enemies of the grower and consumer and of every man who gains a livelihood by the sweat of the brow. This class is so large, in the various marts of trade, that its aggregate gains absorb an essential part of the products of national industry.

The middleman, working in trade guilds, societies, exchanges, and boards of trade, combines to control the transfer of lands, farms, city lots, railroad shares and bonds, stocks and securities of all kinds, and all real and personal property, and to swell commissions and fees of such transfers. Cities are filled with non-producers, not merely teachers and physicians, and other useful professionals, who are in a sense producers and in every view useful and necessary members of the body politic, but people who under the guise of go-betweens in the distribution between producers and consumers, combine to fix the prices they pay for the goods of the former and set up daily the rate demanded of the latter. Free competition should reduce this share of the middlemen to a minimum, but for the inducement and opportunity to combine formally or informally to control prices of products and costs of vending.

Thus the share demanded often amounts to a confiscation of the grower's profit, and the number of salesmen is so increased that they complain that they can not make a living. The trouble is, there are too many of these non-producers who absorb the products of the farmer in the distribution to the consumer. Perhaps the only remedy may be a combination of the farmers to retail their own fruits and vegetables in cities, sell their own meats and manufacture their own flour. Something must be done to reduce the numbers and modify the greed of a long line of leeches that are fattening on the industry of the country, who neither toil on the farms nor spin in the factories, and yet they are absorbing the wealth of the country by combination without conscience and service without equity, while the producers are relegated to the rear and left to enjoy their pittance as they may.

There may be minor causes of depression which have not been considered, but they are impotent and unimportant in comparison with those outlined. The main difficulty is, there is overproduction of a few staples and quite too limited a list of rural products. There is too much hog and hominy, and a narrow range of delicacies that are so eagerly sought by the buyer and so profitable to the producer. There is too much rural labor unemployed, and too much mechanical and manufacturing labor idle in both cases for lack of sufficient variety, and because $500,000,000 or $600,000,000 are spent in foreign countries for products that could better be made here. It is useless, it is foolish, to say that we can not sell our surplus unless we buy our food and clothing abroad.

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We did sell last year to a single country to the amount of $201,000,000 more than we bought of that country, and a similar disproportion exists every year.

As we become more independent, more self-sustaining, producing all substantials of life, wealth will more abound, and be more equally distributed under the industrial than under the commercial idea; and while imports will still be heavy, they will be mainly for luxuries and superfluities of the rich, and will not reduce the resources or limit the comforts of the people.

In a primitive country the first business of farmers is to produce food, to cater to the wants of the stomach; if they go no farther, as population advances and its wants increase with the progress of culture and civilization, and so neglect to supply the "raw materials" for the uses of the industrial arts, their country will forever remain primitive and poor. This country can not claim exemption from the inexorable rule. Cotton, by the invention of the gin, and the existence of a suitable soil in the South, became the salvation of its agriculture, and then threatened its existence by its refusal to tolerate other raw materials for other arts. The cotton crop is valuable, and will represent a larger value, yet it would not suffice to board the people of the South at first class hotels for a week. A score of other products should further enrich her agriculture to relieve existing depression. All the worsted wools and all the carpet wools that can be woven in the country can readily be produced in the South. Only the invention of an effective decorticator is required to make ramie a great industry, supplementing rather than rivaling cotton; and jute and many native and foreign fibers should swell the list of raw materials.

And there should be no more need of going to Italy or Japan for raw silk than there is to India for raw cotton. Further, there should be just as little need of going to Cuba for sugar. Nine-tenths (at least) of all the raw materials required for textile, metallic, mechanical, chemical, oleaginous or other manufacture can be produced, primarily by our farmers, diverting their labor to profitable channels, and swelling the value of their products, steadying the prices of the food staples, and insuring prosperity and comfort to all. No other panacea will cure hard times; a profitable outlet, by diversification and extension, for constantly augmenting rural labor, can alone make rural industry profitable. If the policy of going abroad for all fibers except cotton shall be put into permanent practice, and for all sugar and fruits, barley and oil seeds, to be paid for in corn and wheat and cotton, which are already crowded into foreign markets to the last pound and bushel, there will be no necessity for a "single tax" to make the farmer's land valueless, and no need of account-books or pocket-books, and little demand for books of any kind.

And yet there is gross ignorance abroad of the extent of these limitations of our agriculture, and of the means of recuperation. Many of

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our farmers are delaying the emancipation of rural industry, and seeking to import cordage to bind upon their backs still closer their present burdens. Instead of enlarging the range of profitable production, they are seeking to restrict it. The wheat-growers insist upon going to the antipodes for binder-twine, while a million acres of flax fiber is wasted in adjoining fields, and when they could produce hemp enough within six months to bind the wheat of the world. The cotton-growers want to go to India for jute, which will grow in their cotton fields as readily as weeds. If we will not produce the twine to bind our sheaves, or the jute or hemp or flax to cover our bales, we shall have no right to complain of 50 cents per bushel for the one or 5 cents per pound for the other.

During the last ten years more than two million workers in agriculture, armed with improved implements, have been added to the seven millions that were making corn and wheat and cotton; and shall they still insist on the same limited range of effort, walk in the same furrows their fathers turned, and seek to live and die in the same overdone and profitless routine? If so, agricultural depression will become chronic and intensified to a degree unknown at present. Shall farmers hug the chains of their dependence, limit the range of their industry, refuse to strike out into new paths, and sink into comparative idleness and poverty? There are millions of them too intelligent and enterprising and ambitious to co-operate in any such scheme of self-degradation.

EUROPEAN CROP REPORT FOR MARCH.

Reports from every quarter are satisfactory. February has been as a whole mild and open, with some frosty weather, which has been beneficial in checking the growth of crops.

IRELAND.

Crops in Ireland, 1888–'89.

Crops.	Average yearly acreage.			Average yearly product.		
	1879–'88.	1888.	1889.	1879–'88.	1888.	1889.
	Acres.	*Acres.*	*Acres.*	*Cwt.*	*Cwt.*	*Cwt.*
Wheat	108, 222	99, 013	89, 745	1, 517, 589	1, 367, 939	1, 436, 166
Oats	1, 347, 992	1, 280, 858	1, 238, 952	17, 933, 369	17, 630, 638	17, 632, 645
Barley	191, 384	170, 929	185, 783	2, 871, 235	2, 701, 859	3, 242, 522
Bere	389	380	471	5, 339	5, 043	6, 130
Rye	8, 966	13, 942	15, 786	101, 154	187, 052	203, 435
				Tons.	*Tons.*	*Tons.*
Potatoes	816, 060	804, 566	787, 234	2, 795, 542	2, 523, 207	2, 847, 622
Turnips	300, 817	294, 237	297, 913	3, 498, 300	3, 326, 651	3, 909, 822
Mangolds and beets	40, 838	45, 749	44, 021	506, 403	590, 053	621, 639
Flax	121, 129	113, 613	113, 652	20, 725	20, 598	19, 366
Grass lands:						
1. Under rotation	2, 019, 931	627, 732	670, 242	*4, 062, 357	1, 386, 758	1, 478, 344
2. Permanent pasture.		1, 594, 248	1, 517, 280		3, 794, 188	3, 375, 659

* Hay.

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FRANCE.

The weather during the month has been seasonable; and the general aspect is excellent. Heavy snows have fallen in the East and South, for which they are envied in the North, where fears are expressed on account of the young plants' exposure to the cold. The preparations for the spring work are well spoken of.

The minister of agriculture is strongly opposed to the proposition of the council of agriculture to raise the duty on maize, the important question which will shortly be taken up by the commission on tariffs.

France having not succeeded in getting Great Britain to remove her legal barriers against the importation of live cattle from France, the department of agriculture is doing all in its power to aid the departments on the western coast to increase the export of meat, so now that Russia is entering the lists as a bacon exporter, Great Britain will have two new sources of supply to draw upon.

AUSTRIA-HUNGARY.

The private and official reports from Vienna and Budapest speak well of the condition of the growing crops, but the continued drought and frosty weather, coupled with comparative absence of protecting snow, is now beginning to cause uneasiness. The feeling has not yet made itself manifest on the markets which remain quiet.

Expressed in thousands of hectoliters the yield of the crops last year was as follows: *

Year.	Wheat.	Rye.	Barley.	Oats.	Maize.	Wine.
1889	10,895	21,133	13,785	24,568	3,362	2,329
1888	13,452	23,534	16,994	30,884	3,569	1,512

There has therefore been a falling off in all the cereals compared with 1888 of from 10 to 20 per cent. with the exception of maize, and an increase of over 50 per cent. in wine.

GERMANY.

The late wintry character of the weather in Germany has again interrupted navigation, but has as yet done little or no damages to the crops. Some isolated complaints have been raised where the country is denuded of snow and where the weather has been particularly severe. The reports, on the whole, are somewhat better than during the early part of the month.

* These statistics are not for the whole of Austria, as the returns for Tyrol, Vorarlberg, East Galicia, and Dalmatia had not been received by the Austrian ministry of agriculture when the preliminary official statement from which these figures were taken was made up.—[Note by Editor.]

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BULGARIA.

In the report of the Bulgarian finance minister, the yield of the cereals in 1889 is given as follows:

Cereals.	Bushels.	Cereals.	Bushels.
Wheat	35,200,000	Oats	7,088,000
Rye	6,352,000	Maize	12,200,000
Barley	9,440,000	Millet	248,000

RUSSIA.

Very little information has been forwarded touching crop conditions during the last few weeks. Reports via Berlin take an unfavorable view of the effect of the weather in the North, while Odessa is apparently satisfied with the southern prospects. The principal event of the month is the publication of the final report of the Russian Department of Agriculture, which shows that the most pessimistic estimate heretofore was thoroughly justified. I append Dornbusche's statement of the summary, which includes also the crops in Poland.

The returns just issued by the minister of agriculture show that the actual aggregate yield of the principal cereal crops in European Russia in 1889 amounted to 187,800,000 quarters, and which represent a decrease of 52,800,000 quarters, compared with the previous year, and 32,000,000 quarters below the average produce (207,700,000 quarters) of the five years from 1883 to 1887. The greatest deficiency occurred in the southern regions, particularly in the Novorossian provinces, where the deficit, compared with 1888, amounted to 22,300,000 quarters, or 8,400,000 quarters of the quinquennial average. In the southwestern Governments the yield fell short of 1888 by 8,000,000 quarters, or 5,000,000 quarters of the five years' average. In the provinces of Little Russia the decrease against 1888 was 7,700,000 quarters, or 4,400,000 under the above-named average. A considerable deficit ensued in the central agricultural districts, where the out-turn gave 15,200,000 quarters less than in 1888 and 8,100,000 quarters of the quinquennial average. Thus the most unsatisfactory results of the last harvest are apparent in the principal producing centers. An exception, however, is only to be made of the Lower Volgian and Uralian provinces, which also hold a prominent position in the production of grain, and where the yield exceeded the 1888 crop by 3,300,000 quarters in the first and 3,800,000 quarters in the last instance.

Reviewing the principal products of the harvest, the greatest deficiency last year is observable in rye, the yield having been 66,757,000 quarters or 18,755,000 quarters less than in 1888. The chief deficit was noticeable in New Russia, (particularly in the government of Ekaterinoslav), where the crops produced 5,000,000 quarters under that of the previous year, and 2,000,000 quarters of the five years' average.

In general this cereal has proved a poor crop in all the southern governments and the central agricultural districts; in the latter falling below the 1888 crop by 5,000,000 quarters. The quality of the grain is admitted to be satisfactory, and in weight is equal to and occasionally above the previous year's crop.

Azima wheat shows a material diminution in yield compared with 1888, and the average of 1883 to 1887. Last year it produced 6,500,000 quarters, or 9,208,000 less than in 1888 and 3,588,000 quarters of the five year's average. The natural weight of the winter wheat was not inferior to that of the 1888 crop.

The out-turn of last year's spring wheat crop amounted to 17,238,000 quarters, against 23,388,000 quarters in 1888, or a deficit of 6,150,000 quarters.

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Barley yielded a crop of 13,988,000 quarters, compared with 19,200,000 quarters in 1888, showing a decrease of 5,212,000 quarters.

Oats gave a produce of about 61,000,000 quarters in comparison with 69,000,000 quarters in the preceding year.

Maize.—The crop was represented by 1,290,000 quarters against 2,374,000 quarters in 1888, and 2,000,000 quarters as the average of the five years of 1883 to 1887.

Crops of Russia, including Poland.

Crop.	Russia.		Poland.	
	1889.	1888.	1889.	1888.
Wheat:	*Quarters.*	*Quarters.*	*Quarters.*	*Quarters.*
Asima	6, 500, 000	15, 708, 000	1, 245, 000	1, 177, 000
Spring	17, 238, 000	23, 388, 000	21, 000	32, 000
Total	23, 738, 000	39, 096, 000	1, 266, 000	1, 809, 000
Rye	66, 757, 000	85, 512, 000	4, 250, 000	5, 427, 000
Oats	61, 000, 000	69, 000, 000	2, 593, 000	4, 142, 000
Barley	13, 988, 000	19, 200, 000	882, 000	1, 320, 000

INDIA.

The first general memorandum of the agricultural department of India, issued at Simla, January 21, repeats the previously known information of the serious deficiency in the area sown in some of the most important provinces, and gives the corrected average for each. Another short crop is anticipated.

In the Punjab the wheat area on the 30th November was estimated at 6,670,400 acres, or about 3.59 per cent. below the area of the last harvest, which, however, was no less than 14.4 per cent. above the area estimated in November, 1888. So far the season has not been favorable, the winter rains having been almost entirely absent. Everything now depends on timely showers during the present and ensuing months. Rain has recently fallen in some districts, and a beneficial change in the weather seems to be impending.

The winter rains have also failed in the northwestern provinces of Oudh, where in consequence the area under wheat is estimated at about 6 per cent. less than last year's area (5,074,000). Germination has, however, been good, and the crop is still thriving, though rain, is much needed in parts and much will depend on its falling in time.

In the central provinces the season was extremely favorable for sowing operations; the seed is stated to have germinated well and the young plants are generally thriving. No estimate of wheat area is given, but it is expected that it will at least not be below the average. More recent reports show that the crop is everywhere in need of rain at present.

In Berar the area under wheat is reported to be below that of last year, more attention having been given to cotton cultivation, for which the season has been favorable.

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The crop was in good condition at the beginning of the month.

On the 5th December the wheat area of the Bombay Presidency and Sindh was estimated at 2,225,000 acres, or about 25 per cent. less than the area actually harvested last year, which, however, exceeded the December estimates of last year by 17.5 per cent. The present estimate is exclusive of two of the Guzerat States, for which complete returns had not been received when the estimate was prepared. The condition of the crop is reported to be good in the Karnatic and Sindh, and fair in Guzerat, the Guzerat States, and the Deccan. At the beginning of the current month the condition of the standing crops was good, but rain is wanted in parts of the Deccan.

In Bengal, Central India, Rajputana, Hyderabad, and Mysore the prospects of the standing crops are, so far as can be ascertained from the weekly crop reports, good at the present time.

The average* wheat areas for the several provinces and native States for four years from 1884 to 1886 are as follows:

Provinces in which statistics are based on annual survey:	Acres.
Punjab	6,618,000
North and Western Provinces of Oudah	5,074,000
Central Provinces	4,125,000
Berar	917,000
Bombay (including native states)	2,629,000
Sindh	285,000
Madras	27,000
Ajmere	15,000
Mysore	14,000
Province of native states in which statistics are based on rough estimates:	
Bengal	1,034,000
Rajputana	1,542,000
Central India	2,617,000
Hyderabad	1,111,000
Kashmir	500,000
Total	26,508,000

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NOTES ON FOREIGN AGRICULTURE.

[Reports of United States consular officers.]

Fiji Islands, Levuka.—Commercial Agent St. John, in a report dated January 9, 1890, states that the production of sugar in the Fejee Islands, during 1889, somewhat exceeded an average product. No new mills have been erected during the year, nor has any material increase been made in acreage cultivated. Foreign capital owns and operates the industry. Copra forms one of the chief articles of export and is raised in all parts of the islands. During 1889 6,500 tons were pro-

*The "average" or "normal" area and outturn of previous forecasts has been revised since July, 1889.

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duced, the larger portion of which was shipped to Germany and Australasia. The cost of producing a ton is about $5, not including the interest on the capital invested. The trees come in bearing in from seven to ten years after the planting. The present price is $31.63 per ton, and this leaves very little profit. Bananas are grown extensively in different parts of the group. Last year the total shipments aggregated about 500,000 bunches, Australasia forming almost the only market for this fruit. Planters are contented if they are paid 24 cents per bunch delivered alongside the steamers, and that is perhaps an average price.

During recent years experiments have been made in the cultivation of tea, and the industry is now considered as quite fairly established. The plant grows rapidly and furnishes an abundance of leaves. As yet there is but one large plantation in the group, though it is elsewhere cultivated on a minor scale. The variety grown is the Asam Hybrid, and it seems well at home on all the highlands upon which it has been tried. The indications at present are that tea culture will at no very distant day occupy the entire attention of planters, to the exclusion of other crops now grown. The production at present amounts to about 100,000 pounds per annum, of which 75,000 pounds is exported from New Zealand. Corn is the only cereal crop that is cultivated, and little or no attention is given even to this. It is planted between the rows of bananas and no further attention or cultivation given it. The product is all consumed locally.

Germany, Stettin.—Consul Fay, in a communication bearing date of February 5, 1890, states that the condition of winter seeds has not materially changed during the past month. Germination has been rapid on account of the favorable weather. Winter wheat in particular looks fresh and green, and should the remainder of the winter experience the same mild temperature, the crop will have an unusually good start. The present condition of winter grain is considered fully 25 per cent. better than at the same date last year. Farmers, however, are apprehensive of damage from possible freezing weather, as the ground is bare of snow, lacking winter protection.

In West Prussia the crops of rye and oats were not sufficient for domestic consumption, and the wintering of stock, therefore, during the present season, is very expensive in that section; however, stock is in good health, and notwithstanding the high prices of fodder a small profit is being realized in the industry. In other portions of the Kingdom, however, the increased cost of forage, coupled with losses from the foot and mouth disease in cattle and sheep, makes the prospect discouraging for the stock grower.

The potato crop is one of the best paying in Prussia, and the products therefrom, dextrine, potato flour, starch, etc., shipped to the United States from the port of Stettin during the last three months amounted to $50,000. German manufacturers are at a loss to understand why we

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purchase these products abroad when we have such immense crops of corn, when it is realized that the percentage of dextrine in corn is 50 per cent. greater than in potatoes.

Germany, Cologne.—Consul Warner, under date of February 13, says that, in consequence of the generally unfavorable season throughout Prussia during 1889, the grain crops, especially rye, were very poor, the stand for the most part being thin. The season was more favorable for potatoes, and that crop gave the best results, though, on account of excessive moisture, during the latter part of the growing season and at harvest, many of the tubers did not keep well, making necessary a rapid consumption. The official estimates of the Prussian Bureau of Statistics were published on page 520 of the report for December, 1889.

Ontario, Amherstburg.—Consul Turner, in a communication dated January 28, states that the area of wheat sown in that consular district for the coming crop is about one-half that sown in previous years, the falling off being due to drought at time of seeding. The plant at present is in favorable condition. In that district wheat is now selling at 80 cents per bushel, corn at 38 cents, oats at 25 cents, and barley at 35 cents.

Spain, Jeres de la Frontera.—Consul Paul, in a communication dated January 30, speaking of the drought then prevailing in that district, says that no rain has fallen since last October, the ground is hard and packed, the dry and cold weather has prevented seed from germinating, and cattle are reported as dying off on account of short pasture. The crops were all sown and everything depended upon the weather, which at that time was very discouraging.

Ontario, Fort Erie.—Consul Whelan writes on February 3, that the total area sown to fall wheat in that province, in 1889, was 822,115 acres, the total product 13,001,865 bushels. The yield per acre being 4 bushels lower than the average yield for the last eight years. The total yield of spring wheat was 5,697,707 bushels with an average yield per acre of 14.3 bushels. There has been a general reduction in the area of fall wheat sown for this year's crop. At the date of seeding, the weather, on account of drought, was unfavorable to the proper preparation of the soil, and it is said that much of the seed failed to germinate for want of sufficient moisture. The crop is now in good condition, but it is estimated that there will be a shortage of from 10 to 15 per cent. as compared with the product of 1889.

Finland, Helsingfors.—Vice-Consul Donner, under date of January 11, makes the following report upon the agriculture of Finland:

FINLAND AGRICULTURAL REPORT.

Finland has an area of 144,788 square miles. The entire surface is intersected by innumerable lakes, which comprise about 10 per cent. of the whole. About 60 per cent. is forest land, whilst marsh and bog take up another 10 per cent.; so, there is only a small proportion under cultivation as yet. The State owns about half the woodlands, which are under proper management, whereas the private forests have

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been somewhat recklessly treated hitherto. Pine, fir, and birch are the commonest species.

Rye is the principal grain grown, and forms the staple food of the population; then come oats and barley. Potatoes, too, are extensively cultivated. Rye is sown in autumn, and oats and barley in spring, as soon as the snow melts. Finnish rye is much prized for seed, and considerable quantities are exported to Prussia and Sweden for that purpose. In spite, however, of the sparsity of the population, Finland does not grow sufficient breadstuffs for its support, and we find that there is a large annual import of corn and flour from Prussia mostly. Climatical difficulties and an ungrateful soil mainly account for this deficiency; and, indeed, few but the hardy, resolute Finns could do so much with the land as is done. Agricultural machinery, of the simpler and cheaper descriptions, is used wherever possible; but, as small holdings are the rule, and large plains or even fields quite an exception, the employment of reapers and similar implements is attended with many difficulties, not the least of which are the rocks and stones that abound on all sides, to say nothing of the stumps, etc., on land lately brought into cultivation.

Finland possesses two agricultural colleges and eight smaller schools subsidized by the State. There are also fifteen small dairy schools and two higher schools, these latter forming departments of the agricultural colleges.

Dairy farming has recently shown a very great development, owing to Government encouragement on the one hand, and to the unremunerative prices of cereals on the other. England is the principal market for Finnish dairy produce.

There is at the present time about 2,285,000 acres of arable land, and 3,290,000 acres of meadow land, in the Grand Duchy. With regard to the latter, I can not help referring here to the very simple and practical method employed by the Finlanders for preventing the hay being spoiled by rain. Props or poles (usually fir), about 8 feet long and 4 or 5 inches in diameter, and furnished with a few projecting wooden spikes at intervals of about a foot, are stuck firmly into the ground, and the grass piled around them as in ordinary hay-cocks, but less bulky. Thanks to the ventilation thus supplied, the hay suffers comparatively little, even after an exposure of two or three weeks.

The reports of the eight provincial governors on the harvests of 1886 and 1887 show them to have been above the average on the whole, but the latest statistics available are for 1885, and are as follows:

Agricultural statistics.

Seed sown.	Amount of seed sown.	Harvest.	Average product for each bushel of seed sown.
	Bushels.	*Bushels.*	*Bushels.*
Rye	1,717,857	10,522,818	6.13
Oats	2,088,261	10,096,223	4.83
Barley	1,020,465	5,078,558	4.98
Wheat	18,092	113,472	6.29
Potatoes	2,235,479	13,577,481	6.07

Palestine, Jerusalum —Consul Gillman, in his report for December, 1889, says that with the exception of plowing for the sowing of wheat and barley but little work was done in the fields during that month. Up to that date the rain-fall had been in hardly sufficient supply. During the last two days of the year there was a sudden fall in the temperature, resulting from the cold wind blowing from the eastward, so that water froze in Jerusalem and the neighboring country. Oranges, lem-

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ons, and limes are reaching that market in fair abundance, and turnips and radishes in full supply; tomatoes, cabbages, cauliflower, and other ordinary vegetables are still abundant.

Paris, France.—Consul-General Rathbone, in a communication dated January 28, states that the French ministry of agriculture has published a statement made up from the reports transmitted by the prefects of the different departments of France, concerning autumn seeding and the present condition of the crops. The actual condition of the crops is said to be very good in 29 departments, good in 37, tolerably good in 13, and mediocre in 8 departments. The area sown to wheat amounts to 5,910,000 acres in the departments where the condition of the crop was very good; to 7,518,000 acres in departments where it was good; 2,918,000 in departments where it was tolerably good, and to 808,000 acres in departments where it was mediocre.

Italy, Rome.—Consul-General Bourn, in a letter dated February 1, states that from telegraphic returns received by the ministry of agriculture of that country, it appears that the crop of oranges, lemons, and citrus fruits in Italy for the year 1889 was about 71.5 per cent. of an average, and it is estimated that about 60 per cent. of the crop is of good quality, 30 middling, and 10 bad. Frost during the early season, prolonged summer drought, and disease are said to have injured the crops.

San Salvador.—Consul Tunstall on January 25 writes that the principal crops of that Republic are coffee, sugar, and indigo, but that the area of neither can be definitely ascertained. The coffee crop of the present season, now being prepared for market, is declared by some of the most extensive growers to be better than that of 1888 and exceeding it in quantity, the excess being mainly due to the cultivation of a larger area. The sugar crop is smaller than that of 1888, although the yield and quality of saccharine is good. The crop was sorely affected by protracted drought that prevailed during the early growing season, and there will be a material falling off in the aggregate supply. The area devoted to this crop is not increasing. Indigo does not mature before June and the harvest takes place between that month and the month of September. The extremely low price for this product, heretofore one of the staples of the country, in connection with the partial failure of the crop for several consecutive seasons and the damage done by locust, that makes its appearance with the regularity of the caterpillar in Southern cotton fields, have tended to discourage the indigo planter, while the advantages in coffee culture will induce him to abandon its culture and devote his lands to coffee growing.

Quebec, Three Rivers.—Consul Smith in a report treating of the limited agricultural productions of that district, states that grass is the most permanent and profitable. As the summer is too short for grazing, farmers find it to their advantage to let it ripen into hay. The meadows are generally bottom lands subject to an overflow from the rivers, and the cost of its production is almost nothing. The lands re-

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quire reseeding only about once in twenty years, and the deposit from the overflow keeps them in a state of high fertilization. It is this subsidy from nature which enables the Three Rivers farmer to pay a duty of $2 per ton and yet sell his product in the New York market and grow rich upon his returns. The annual yield is about 60,000 tons, of which more than half is shipped into the United States. The price ranges, in the course of a decade, from $6 to $10 per ton, depending upon the condition of the New York market. The native farmers are so orthodox that in many instances they continue to use, in gathering their crops, the simple instruments employed by Boaz, though there is an increased disposition to experiment with better machinery. The only mowing machine which he has seen there was of the pattern used thirty years ago in the United States.

There is an enterprise now on foot which, if carried out, may put a stop to the shipments of hay to the United States. A company claiming a capital of a million and a half dollars has been formed in London to build and operate an abattoir meat-canning establishment in Three Rivers. While they would naturally look to the Northwest for their supplies, the opening of such an establishment would give an impulse to the breeding of cattle in the neighborhood and create a home demand for the hay. As a bonus that city has voted an accompanying 100 acres of land adjoining the corporation and exemption from taxation for ninety-nine years.

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THE WORLD'S WHEAT CROP FOR 1889.

The following is an approximate estimate of the wheat crop of the world for 1889, exclusive of countries for which neither estimates nor definite data therefor are to be found, such as China, Asiatic Russia, etc. The crop given for countries in the southern hemisphere is that sown in 1888, for while in the earlier districts it is harvested before the close of the year, the bulk of it is not cut and gathered until after the beginning of the year following that in which the sowing takes place. So far as official estimates are available they are, of course, used in the following table. The estimates for the United States, the Canadian provinces of Ontario and Manitoba, Hungary, France, Great Britain, Ireland, Italy, Russia, Spain, Sweden, and India are of this class, though several of them are subject to revision after the receipt of more exact returns by the governments of the respective countries. The estimate for Austria is based on a preliminary official estimate for all the provinces except Upper and Lower Tyrol, Vorarlberg, East Galicia, and Dalmatia.

The estimate for Roumania is found in the Vienna paper Das Handels-Museum for January 2, 1890, forming part of a statement which appears to be official, though not expressly stated to be so.* The figures for the Canadian provinces, other than Ontario and Manitoba, and those for the Cape of Good Hope, are only roughly approximative, being based on figures for earlier years in connection with the scanty information available as to the character of the crop of 1889. The figures for Australasia are official, except in the case of South Australia, for which an estimate, made by Mr. Hayter, government statistician of the colony of Victoria, is adopted and included as a part of the total.

The estimates for other countries are wholly unofficial, those for Chili, the Netherlands, Portugal, Switzerland, Asia Minor, Persia, Syria, Algeria, and Egypt being from the Paris Bulletin des Halles, of September 9, 1889, and the remainder from various other sources, occasionally with some modification believed to be warranted by the information at hand. It will be noticed that the official figures include those for the largest wheat-growing countries, such as the United States, Hungary, France, Italy, Russia, and India; but in view of the fact already stated that several of the official estimates are subject to revision, and that the unofficial estimates, though generally for the less important countries, cover a considerable aggregate, it will be seen that the grand total is only to be accepted as an approximation, subject to material modification in the light of later returns:

* Some ambiguity is occasioned by the fact that the figures are presented as being for the crop year 1888-'89, but it is pretty clear that the figures refer to the crop harvested in the latter year.

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Countries.	Foreign measure.		Winchester bushels. a
	Denomination.	Number of units.	
North America:			
United States			490, 560, 000
Canada:			
Ontario	Imp. bushels	18, 699, 572	19, 288, 983
Manitoba	do	7, 201, 519	7, 428, 511
Other provinces			4, 500, 000
			521, 777, 494
South America:			
Argentine Republic	Hectoliters	4, 000, 000	11, 350, 000
Chili	do	4, 500, 000	12, 768, 750
			24, 118, 750
Europe:			
Austria-Hungary:			
Austria			b 43, 000, 000
Hungary	Quintals	25, 588, 406	c 94, 020, 333
Belgium			19, 000, 000
Denmark			5, 000, 000
France	Hectoliters	111, 460, 218	316, 268, 360
Germany			d 82, 000, 000
Great Britain and Ireland:			
Great Britain	Imp. bushels	73, 267, 007	75, 576, 383
Ireland	Cwts	1, 436, 163	2, 680, 838
Greece			5, 000, 000
Italy	Hectoliters	36, 592, 900	103, 832, 354
Netherlands	do	2, 000, 000	5, 675, 000
Portugal	do	3, 000, 000	8, 512, 500
Roumania	do	15, 783, 208	44, 784, 853
Russia	Chetverts	e 31, 654, 800	188, 535, 989
Servia			5, 000, 000
Spain	Hectoliters	26, 651, 000	75, 622, 213
Sweden and Norway:			
Sweden	Hectoliters	1, 306, 800	3, 708, 045
Norway	do	100, 000	283, 750
Switzerland	do	800, 000	2, 270, 000
Turkey and dependencies	do	14, 000, 000	39, 725, 000
			1, 119, 495, 627
Asia:			
India	Tons	6, 510, 979	243, 076, 549
Asia Minor	Hectoliters	13, 000, 000	36, 887, 500
Persia	do	8, 000, 000	22, 500, 000
Syria	do	4, 500, 000	12, 768, 750
			315, 232, 799
Africa:			
Algeria	Hectoliters	8, 000, 000	22, 500, 000
Egypt	do	2, 800, 000	7, 945, 000
Cape of Good Hope			3, 800, 000
			34, 245, 000
Australasia			26, 205, 957
Total			2, 041, 075, 627

a Where the quantities are originally stated by weight, they are reduced to bushels on the basis of 60 pounds to the bushel, and in such cases the number of bushels given in the table is probably as a rule materially below the number of measured bushels represented by the quantities in question. The statement for Australasia may also be regarded as being in bushels of 60 pounds.

b The preliminary official estimate for Austria, exclusive of Tyrol, Vorarlberg, East Galicia, and Dalmatia is 10,895,000 hectoliters, or 18.1 per cent. less than the product for the same provinces in 1888. If the provinces for which no returns had been received when the estimate was made had a like deficiency as compared with 1888, their product in 1889 would be 3,945,803 hectoliters, making a total of 14,840,803 hectoliters, or 42,110,779 Winchester bushels, for the whole of Austria.

c An earlier statement, purporting, like that in the table, to be a preliminary official estimate, placed the crop at 36,432,500 hectoliters, or 103,377,219 measured bushels. The figures given in the table represent bushels of 60 pounds, and the difference between the two statements, as expressed in bushels, is probably due in the main to the actual measured bushel falling considerably below this weight.

d The preliminary official estimate for Prussia, as given on page 520 of the statisticians' monthly reports for 1889 (December number), places the crop for that kingdom at 1,318,773 tons; and as the metric ton used in Germany is equivalent to 2204.6 pounds, this quantity represents 48,456,116 bushels of 60 pounds. In 1888 Prussia included nearly 56.9 per cent. of the total wheat area of the empire and produced nearly 55.8 per cent of the total crop. Should the contribution of the other states and provinces of the empire for 1889 be in the same proportion as in 1888, the total crop would be a few millions of bushels larger than the one given in the table.

e This quantity is for Russia, exclusive of Finland, which produces a very small quantity of wheat. The latest figures for that corner of the empire are for 1885, for which year the wheat product is stated at only 112,472 bushels.

The wheat crop of Russia, exclusive of Poland as well as Finland, is stated at 29,967,000 chetverts, or 178,483,452 bushels.

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TRANSPORTATION RATES.

FREIGHT RATES—RAILROAD COMPANIES.

CHANGES IN FREIGHT RATES.

No important changes are reported in the rates of freight upon agricultural products between Chicago and Eastern markets since last published. West of Chicago there have been a great many changes, especially in the rates from Chicago and St. Louis to Missouri River points.

The different divisions of the Western Freight Association, which have been in session for the past two weeks in Chicago re-adjusting rates for their respective territories, made necessary by the recent reduction in the rates to St. Paul, established the following rates taking effect February 22. To show the extent of reduction the old rates are shown in comparison with the new rates:

Classes.	Chicago to St. Paul.		Chicago to Omaha and Kansas City.		St. Louis to Omaha and Kansas City.	
	New rate.	Old rate.	New rate.	Old rate.	New rate.	Old rate.
First class	40	60	60	75	40	55
Second class	30	50	50	60	30	40
Third class	22	40	35	40	25	30
Fourth class	17	25	25	30	20	25
Fifth class	12½	20	18	25	13	20
Class A	17	25	25	30	17½	22½
Class B	15	20	20	25	12½	17½
Class C	12	17	15	20	10	15
Class D	10	14	14	17½	9	12½
Class E	10	13	13	16	8	11

East-bound rates to Chicago have not changed except upon live stock and grain. The last report gave notice of the reduction on live stock, which was from 25 to 12½ cents per 100 pounds, Kansas City to Chicago. The rates on corn from points in Kansas and Nebraska to Chicago have been reduced 10 per cent., with a minimum of 20 cents and a maximum of 25 cents, and through rates from points of shipment to Chicago have been correspondingly reduced. The rates that were in effect before this reduction varied from 21 to 32 cents.

In this report will be found tabular statements showing the reduced rates upon the more important agricultural products and farmers' supplies, as reported by several of the large railroad companies west of Chicago.

The following transportation companies report no important changes in their rates since last published: Pennsylvania lines (west of Pitts-

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burgh); New York Central and Hudson River Railroad; New York, Lake Erie and Western Railroad; Chicago and Atlantic Railway; Lake Shore and Michigan Southern Railway; Grand Trunk Railway; Delaware, Lackawanna and Western Railroad (east and west bound); Chicago, Burlington and Quincy Railroad; Northern Pacific Railroad; St. Paul and Duluth Railroad; Chicago and Alton Railroad; Louisville and Nashville Railroad; Mobile and Ohio Railroad; Michigan Central Railroad; Old Dominion Steam-ship Company; Winsor Line; Portland Steam Packet Company; The Southern Railway and Steam-ship Association.

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WABASH RAILROAD COMPANY.

[Rates in effect March 3, 1890.]

Articles.	To Kansas City, Atchison, Leavenworth, or St. Joseph from—				From Kansas City, Atchison, Leavenworth, or St. Joseph to—			
	St. Paul, Minneapolis.	Chicago, Milwaukee.	Peoria, Pekin.	East St. Louis, St. Louis.	St. Paul, Minneapolis.	Chicago, Milwaukee.	Peoria, Pekin.	East St. Louis, St. Louis.
Agricultural implements: Except hand, C. L, per 100 pounds	$0.27	$0.25	$0.21½	$0.17½	$0.32	$0.30	$0.26¼	$.022½
N. O. S., K. D. flat, in bundles, L. C. L., per 100 pounds	.65	.60	.50	.40	.80	.75	.65	.55
Apples, in boxes or barrels, O. R., prepaid or guaranteed: C. L ..... per 100 pounds..	.19	.18	.15½	.13	.26	.25	.22½	.20
L. C. L ..... do....	.38	.35	.30	.25	.43	.40	.35	.30
Bacon, hams, and shoulders, packed: C. L.... do....	.22½	.18	.15½	.13	.22½	.18	.15½	.13
L. C. L ..... do....	.27	.25	.22½	.20	.32	.30	.27½	.25
Beans and peas, dried: In barrels or in bulk, C. L., per 100 pounds	.19	.18	.15½	.13	.26	.25	.22½	.20
In barrels, L. C. L ..... per 100 pounds..	.27	.25	.22½	.20	.32	.30	.27½	.25
Beef, pickled: C. L ..... do...	.22½	.18	.15½	.13	.22½	.18	.15½	.13
L. C. L ..... do...	.27	.25	.22½	.20	.32	.30	.27½	.25
Butter, in wood or tin: O. R., C. L ..... do....	.38	.35	.30	.25	.43	.40	.35	.30
O. R., L. C. L ..... do ..	.54	.50	.40	.30	.64	.60	.50	.40
Cheese, in boxes, tubs, or casks: C. L ..... do....	.38	.35	.30	.25	.43	.40	.35	.30
L. C. L ..... do...	.54	.50	.40	.30	.64	.60	.50	.40
Cotton-seed meal and stock, C. L ..... do....	.16	.15	.12½	.10	.21	.20	.17½	.15
Cotton-seed oil, O. R., C. L ..... do ..	.19	.18	.15½	.13	.26	.25	.22½	.20
Fertilizers, N. O. S., in packages: C. L ..... do ..	.14	.13	.10½	.08	.17	.16	.13½	.11
L. C. L ..... do ..	.27	.25	.22½	.20	.32	.30	.27½	.25
Flour: For export, forwarded on through bills of lading ..... per 100 pounds..	.....	.....	.....	.....	.22½	.20	.17½	.15
In barrels, C. L ..... do....	.25	.22½	.20	.17½	.25	.22½	.20	.17½
Fresh meat, C. L ..... do....	.25	.18½	.16	.13½	.25	.18½	.16	.13½
Fruit: Dried, N. O. S., in cans, barrels, boxes, or sacks, released, C. L. ..... per 100 pounds..	.27	.25	.22½	.20	.32	.30	.27½	.25
Green, N. O. S., O. R., prepaid or guaranteed, C. L ..... per 100 pounds..	.38	.35	.30	.25	.43	.40	.35	.30
Hides and sheep pelts, dry, C. L., (minimum weight 10,000 pounds) ..... per 100 pounds..	.54	.50	.40	.30	.64	.60	.50	.40
Hides: Dry, in bundles, L. C. L ..... do....	.65	.60	.50	.40	.80	.75	.65	.55
Green, C. L ..... do....	.22½	.18	.15½	.13	.22½	.18	.15½	.13
Green, in bundles, L. C. L ..... do....	.38	.35	.30	.25	.43	.40	.35	.30
Hops, L. C. L ..... do ..	.54	.50	.40	.30	.64	.60	.50	.40
Lard: In crocks, buckets, boxes, barrels, or casks, C. L ..... per 100 pounds..	.22½	.18	.15½	.13	.22½	.18	.15½	.13
In barrels or tierces, L. C. L ..... do....	.27	.25	.22½	.20	.32	.30	.27½	.25
Lumber: Hard, C. L ..... do ..	.18	.16	.16	.11	.18	.16	.16	.11
Soft, C. L ..... do....	.15	.13	.13	.07½	.15	.13	.13	.07½
Pork, packed: C. L ..... do ..	.22½	.18	.15½	.13	.22½	.18	.15½	.13
L. C. L ..... do....	.27	.25	.22½	.20	.32	.30	.27½	.25
Potatoes, in sacks or barrels: O. R., C. L.... do ..	.16	.15	.12½	.10	.21	.20	.17½	.15
O. R., L. C. L ..... do....	.27	.25	.22½	.20	.32	.30	.27½	.25
Salt: C. L ..... do....	.....	.13	.....	.09½	.....	.....	.....	.....
In sacks, boxes, or barrels, L. C. L ..... do ..	.27	.25	.22½	.20	.32	.30	.27½	.25
Tobacco, unmanufactured: In hogsheads or cases, L. C. L ..... per 100 pounds..	.27	.25	.22½	.20	.32	.30	.27½	.25
In bales, L. C. L ..... do....	.54	.50	.40	.30	.64	.60	.50	.40
Wheat and flax-seed, C. L ..... do....	.25	.22½	.20	.17½	.25	.22½	.20	.17½
Corn, rye, oats, and barley, C. L ..... do....	.22½	.20	.17½	.15	.22½	.20	.17½	.15
Wool: In sacks, L. C. L ..... do....	.54	.50	.40	.30	.64	.60	.50	.40
Compressed in bales, L. C. L ..... do....	.38	.35	.30	.25	.43	.40	.35	.30
Horses and mules, in standard car, C. L ... per car..	70.00	60.00	50.00	40.00	70.00	60.00	50.00	40.00
Cattle and calves, C. L ..... per 100 pounds..	.27	.22	.17½	13½	.....	.12½	12½	*.07½
Hogs, C. L ..... do....	.25	.25	.21½	.21½	.25	.25	.21½	.21½
Sheep, C. L ..... do....	.....	.22	.18½	.14½	.....	.22	.18½	.14½

* In company's own cars only.

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified. K. D.—Knocked down.—O. R.—Owner's risk.

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CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY.

[Rates in effect March 1, 1890, in cents per 100 pounds.]

Articles.	To St. Paul, Minneapolis, or Minnesota Transfer from—			From St. Paul, Minneapolis, or Minnesota Transfer to—		
	Chicago, Milwaukee and Joliet.	Alton, East St. Louis and St. Louis.	Burlington, Muscatine, Davenport and Rock Island.	Chicago, Milwaukee and Joliet.	Alton, East St. Louis and St. Louis.	Burlington, Muscatine, Davenport and Rock Island.
Agricultural implements:						
Except hand, C. L.	17	18	14	25	26	22
N. O. S., K. D., flat, in bundles, L. C. L.	40	42	40	60	63	60
Apples, in barrels or boxes, O. R., prepaid or guaranteed:						
C. L.	12½	13	12½	20	21	20
L. C. L.	22	23	22	40	42	40
Bacon, hams, or shoulders, packed:						
C. L.	12½	13	12½	13	13½	13
L. C. L.	17	18	17	25	26	25
Beans and peas, dried, in barrels or in bulk, C. L.	12½	13	12½	20	21	20
Beef, pickled:						
C. L.	12½	13	12½	13	13½	13
L. C. L.	17	18	17	25	26	25
Butter, in wood or tin:						
O. R., C. L.	22	23	22	40	42	40
O. R., L. C. L.	30	31½	30	50	52½	50
Cheese, in boxes, tubs, or casks:						
C. L.	22	23	22	40	42	40
L. C. L.	30	31½	30	50	52½	50
Flour, in barrels:						
C. L.	12½	15	13	15	16	15
L. C. L.	17	18	17	25	26	25
Fruit, dried, N. O. S., in cans, barrels, boxes, or sacks, released:						
C. L.	17	18	25	25	26	25
L. C. L.	22	23	22	40	42	40
Fruit, green, N. O. S., O. R., prepaid or guaranteed:						
C. L.	22	23	22	40	42	40
L. C. L.	40	42	40	60	63	60
Hides and sheep-pelts, dry, C. L. (minimum weight 10,000 pounds)	30	31½	30	50	52½	50
Hides, dry, in bundles, L. C. L.	40	42	40	60	63	60
Hides and sheep-pelts, green, C. L.	12½	13	12½	13	13½	13
Hops, L. C. L.	30	31½	30	50	52½	50
Lard:						
C. L.	12½	13	12½	13	13½	13
In barrels or tierces, L. C. L.	17	18	17	25	26	25
Lumber:						
Hard, C. L.	14	14	14	14	14	14
Soft, C. L.	14	14	14	14	14	14
Meats, fresh, (except dressed hogs) C. L.	22	23	.....	22½	23½	.....
Oil cake and oil cake meal, C. L.	12	12½	12	16	17	16
Pork packed:						
C. L.	12½	13	12½	13	13½	13
L. C. L.	17	18	17	25	26	25
Potatoes, N. O. S., in sacks or barrels:						
O. R., C. L.	12	12½	12	17	18	17
O. R., L. C. L.	17	18	17	25	26	25
Salt, in barrels or in bulk, C. L.	8½	15	8½	14	15	14
Salt, in sacks, boxes, or barrels, L. C. L.	17	18	17	25	26	25
Tobacco, unmanufactured:						
In hogsheads or cases, L. C. L.	17	18	17	25	26	25
In bales, L. C. L.	30	31½	30	50	52½	50
Flax, millet and, hemp seed, C. L.	16	17	16	16	17	16
Wheat, C. L.	12½	15	12½	12½	16	13
Corn, rye, oats, and barley C. L.	12½	15	12½	12½	16	13
Wool:						
In sacks, L. C. L.	30	31½	30	50	52½	50
Compressed in bales, L. C. L.	22	23	22	40	42	40
Horses and mules, in standard cars, C. L.	27½	28 88/100	27½	27½	28 88/100	27½
Cattle, C. L.	25	26½	25	25	26½	25
Hogs, C. L.	27	28 88/100	27	27	28 30/100	27
Sheep, C. L.	27	28 88/100	27	27	28 30/100	27

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified.
K. D.—Knocked down. O. R.—Owner's risk.

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CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY.

[Rates in effect January 1, 1890, in cents per 100 pounds.]

Articles.	From Chicago, Milwaukee, or Racine to—									
	Dubuque.	McGregor and Prairie du Chien.	Winona.	St. Paul and Minneapolis.	Red Wing.	Chamberlain.	Mitchell.	Yankton.	Sioux City.	Omaha.
Agricultural implements:										
Except hand, O. R., C. L	15	15	15	15	15	50	40	32½	25	25
N.O.S., K D., flat, in bundles, L.C.L	40	40	40	40	40	120	90	80	60	60
Apples, in barrels or boxes, O. R., P. P., or guaranteed:										
C. L	12½	12½	12½	12½	12½	40	30	27	18	18
L. C. L	22	22	22	22	22	70	55	47	35	35
Bacon, in barrels, boxes, or casks:										
C. L	12½	12½	12½	12½	12½	40	30	27	18	18
L. C. L	17	17	17	17	17	50	40	35	25	25
Beans:										
In sacks, C. L	12½	12½	12½	12½	12½	40	30	27	18	18
Dried, in sacks, L. C. L	22	22	22	22	22	70	55	47	35	35
Dried, in barrels, L. C. L	17	17	17	17	17	50	40	35	25	25
Beef, pickled:										
C. L	12½	12½	12½	12½	12½	40	30	27	18	18
L. C. L	17	17	17	17	17	50	40	35	25	25
Butter, in wood or tin:										
O. R., C. L	22	22	22	22	22	70	55	47	35	35
O. R., L. C. L	30	30	30	30	30	90	70	65	50	50
Cheese, in boxes or casks:										
C. L	22	22	22	22	22	70	55	47	35	35
L. C. L	30	30	30	30	30	90	70	65	50	50
Cotton, pressed, in bales, any quantity	40	40	40	40	40	120	90	80	60	60
Fertilizers, N. O. S., in packages:										
C. L	8	8	8	8	8	22	20	17	13	13
L. C. L	17	17	17	17	17	50	40	35	25	25
Flour, in barrels:										
C. L	12½	12½	12½	12½	12½	32	28	28	25	25
L. C. L	17	17	17	17	17	50	40	35	25	25
Grain, other than wheat:										
C. L	10	12½	12½	12½	12½	28	25	24	20	20
L. C. L	17	17	17	17	17	50	40	35	25	25
Hams:										
C. L	12½	12½	12½	12½	12½	40	30	27	18	18
In boxes, barrels, or crates, L. C. L	17	17	17	17	17	50	40	35	25	25
Hogs, dressed:										
O. R., C. L	17	17	17	17	17	50	40	35	25	25
O. R., L. C. L	30	30	30	30	30	90	70	65	50	50
Lard:										
In barrels C. L	12½	12½	12½	12½	12½	40	30	27	18	18
In barrels or tierces, L. C. L	17	17	17	17	17	50	40	35	25	25
Lumber:										
Hard, C. L	10	10	10	14	14	27½	23	22	20	16
Soft, C. L	10	10	10	14	14	27½	23	22	20	13
Pork, packed:										
C. L	12½	12½	12½	12½	12½	40	30	27	18	18
L. C. L	17	17	17	17	17	50	40	35	25	25
Potatoes, N. O. S. in sacks or barrels:										
O. R., C. L	12	12	12	12	12	32	28	21	15	15
O. R., L. C. L	17	17	17	17	17	50	40	35	25	25
Salt:										
C. L	8½	8½	8½	8½	8½	27	21	20	13	13
In sacks, boxes or barrels, L. C. L	17	17	17	17	17	50	40	35	25	25
Tobacco, unm't'd, in hhds., C. L	17	17	17	17	17	50	40	35	25	25
Wheat:										
C. L	12½	12½	12½	12½	12½	32	28	28	25	25
L. C. L	17	17	17	17	17	50	40	35	25	25
Wool, compressed in bales	22	22	22	22	22	70	55	47	35	35
In sacks, boxes or barrels	30	30	30	30	30	90	70	65	50	50
Cattle, C. L	16	16	20	25	25	37½	34	32	31	25
Hogs, C. L	20	22	25	27	27	45	40	37½	35	25
Sheep, C. L	20	22	25	27	27	45	40	37½	35	25
Horses, C. L	17 5/10	17 6/10	22	27½	27½	41½	37 4/10	35 3/10	34 1/10	27½

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. K. D.—Knocked.

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ILLINOIS CENTRAL RAILROAD COMPANY.

[Rates in effect March 1, 1890, in cents per 100 pounds.]

Articles.	From Sioux City to—		To Sioux City from—	
	Chicago, Milwaukee.	East Clinton, Ill., and points north on the east bank of the Mississippi River, to and including East Dubuque.	Chicago, Milwaukee.	East Clinton, Ill., and points north on the east bank of the Mississippi River, to and including East Dubuque.
Agricultural implements:				
Except hand, C. L.	30	22½	25	17½
N. O. S., K. D., flat, in bundles, L. C. L.	75	55	60	40
Apples, in barrels or boxes, O. R. prepaid, or guaranteed:				
C. L.	25	20	18	13
L. C. L.	40	30	35	25
Bacon, hams, and shoulders, packed:				
C. L.	18	13	18	13
L. C. L.	30	25	25	20
Beans and peas, dried, in barrels or in bulk, C. L.	25	20	18	13
Beef, pickled:				
C. L.	18	13	18	13
L. C. L.	30	25	25	20
Butter, in wood or tin, O. R.:				
C. L.	40	30	35	25
L. C. L.	60	40	50	30
Cheese, in boxes, tubs, or casks:				
C. L.	40	30	35	25
L. C. L.	60	40	50	30
Flour, in barrels:				
C. L.	25	20	25	20
L. C. L.	30	25	25	20
Fruit, dried, N. O. S., in cans, barrels, boxes, or sacks, released:				
C. L.	30	25	25	20
L. C. L.	40	30	35	25
Fruit, green, N. O. S., O. R., prepaid, or guaranteed, C. L.	40	30	35	25
Hides, dry, in bundles, L. C. L.	75	55	60	40
Hides and sheep pelts:				
Dry, C. L. (minimum weight 10,000 pounds)	60	40	50	30
Green, C. L.	18	13	18	13
Hops, L. C. L.	60	40	50	30
Lard:				
C. L.	18	13	18	13
In barrels or tierces, L. C. L.	30	25	25	20
Lumber:				
Soft, C. L.			*20	
(Except woods of value) L. C. L.	30	25	25	20
Meats, fresh, including dressed hogs, C. L.	23½	18½	23½	18½
Oil-cake, and oil-cake meal, C. L.	20	15	15	10
Pork, packed:				
C. L.	18	13	18	13
L. C. L.	30	25	25	20
Potatoes, N. O. S., in sacks or barrels, O. R.:				
C. L.	20	15	15	10
L. C. L.	30	25	25	20
Salt:				
In sacks, barrels, or in bulk, C. L.			13	9½
In sacks, boxes, or barrels, L. C. L.	30	25	25	20
Tobacco, unmanufactured:				
In bales, L. C. L.	60	40	50	30
In hogsheads or cases, L. C. L.	30	25	25	20
Vegetables, N. O. S., L. C. L.	28½	23½	23½	18½
Flax, millet, and hemp seed, C. L.	27	20	27	20
Wheat, C. L.	25	20	25	20
Corn, rye, oats, and barley, C. L.	22	15	22	15
Wool:				
In sacks, L. C. L.	60	40	50	30
Compressed in bales, L. C. L.	40	30	35	25
Horses and mules, in ordinary cars, C. L.	34 1/10	20 1/10	34 1/10	20 1/10
Cattle and calves, C. L.	31	18½	31	18½
Hogs, C. L.	35	20	35	20
Sheep, C. L.	35	20	35	20

*—From Chicago only.

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified. K. D.—Knocked down. O. R.—Owner's risk.

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CHICAGO AND NORTHWESTERN RAILWAY.

[Rates in effect March 1, 1890, in cents, per 100 pounds.]

Articles.	From Council Bluffs, Omaha, or South Omaha to—			To Council Bluffs, Omaha, or South Omaha from—		
	Chicago and Milwaukee.	Peoria.	East St. Louis and St. Louis.	Chicago and Milwaukee.	Peoria.	East St. Louis and St. Louis.
Agricultural implements:						
Except hand, C. L	30	26½	22½	25	21½	17½
N. O. S., K. D. flat, in bundles, L. C. L	75	65	55	60	50	40
Apples, in barrels or boxes, O. R., prepaid, or guaranteed:						
C. L	25	22½	20	18	15½	13
L. C. L	40	35	30	35	30	25
Bacon, hams, and shoulders, packed:						
C. L	18	15½	13	.....	.....	.....
L. C. L	30	27½	25	25	22½	20
Beef:						
Dressed, C. L	23½	21	18½	.....	.....	.....
Pickled, C. L	18	15½	13	.....	.....	.....
Pickled, L. C. L	30	27½	25	25	22½	20
Beans and pease, dried:						
In barrels or in bulk, C. L	25	22½	20	18	15½	13
In barrels L. C. L	30	27½	25	25	22½	20
Butter in wood or tin:						
O. R., C. L	40	35	30	35	30	25
O. R., L. C. L	60	50	40	50	40	30
Cheese, in boxes, tubs, or casks:						
C. L	40	35	30	35	30	25
L. C. L	60	50	40	50	40	30
Flour, in barrels:						
C. L	25	22½	20	25	22½	20
L. C. L	30	27½	25	25	22½	20
Fresh meats, C. L	23½	21	18½	.....	.....	.....
Fruit, dried, N. O. S., in cans, boxes, barrels, or sacks, released, C. L	30	27½	25	25	22½	20
Fruit, green, N. O. S., O. R., prepaid or guaranteed:						
C. L	40	35	30	35	30	25
L. C. L	75	65	55	60	50	40
Hides and sheep pelts, dry, C. L. (minimum weight 10,000 pounds)	60	50	40	50	40	30
Hides, dry, in bundles, L. C. L	75	65	55	60	50	40
Hides and sheep pelts, green, C. L	18	15½	13	.....	.....	.....
Hides, green, in bundles, L. C. L	40	35	30	35	30	25
Hogs, dressed, C. L	23½	21	18½	.....	.....	.....
Hops, L. C. L	60	50	40	50	40	30
Lard:						
In crocks, buckets, boxes, barrels or casks, C. L	18	15½	13	.....	.....	.....
In barrels or tierces, L. C. L	30	27½	25	25	22½	20
Lumber (except goods of value), L. C. L	30	27½	25	25	22½	20
Oil cake and meal, C. L	20	17½	15	15	12½	10
Pork, packed:						
C. L	18	15½	13	.....	.....	.....
L. C. L	30	27½	25	25	22½	20
Potatoes, in sacks or barrels, O. R.:						
C. L	20	17½	15	15	12½	10
L. C. L	30	27½	25	25	22½	20
Salt:						
In sacks, barrels, or in bulk, C. L	.....	.....	.....	13	10½	09½
In sacks, boxes, or barrels, L. C. L	30	27½	25	25	22½	20
Tobacco, unmanufactured:						
In hogsheads or cases, L. C. L	30	27½	25	25	22½	20
In bales, L. C. L	60	50	40	50	40	30
Wheat, millet, hemp, and flax seed, C. L	25	22½	20	25	22½	20
Corn, rye, oats, and barley, C. L	20	17½	15	20	17½	15
Wool:						
In sacks, L. C. L	60	50	40	50	40	30
Compressed, in bales L. C. L	40	35	30	35	30	25
Cattle, C. L	25	20½	16½	25	20½	16½
Horses or mules, in standard cars, C. L	27½	22 55/100	17 50/100	27½	22 55/100	17 50/100
Hogs, C. L	25	21½	17½	25	21½	17½
Sheep, C. L	25	21½	17½	25	21½	17½

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified.
K. D.—Knocked down. O. R.—Owner's risk.

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YAZOO AND TALLAHATCHIE TRANSPORTATION COMPANY.

[Rates in effect March 1, 1890.]

Articles.	Vicksburg, Miss., to—				
	All landings below Yazoo City.	Yazoo City.	Silver Creek and Tchula.	Riverside and Greenwood.	Tallahatchie River.
Apples, green, in barrels ..... per bbl..	$0.20	$0.20	$0.20	$0.20	$0.25
Apples and peaches, dried ..... per 100 lbs..	.10	.10	.10	.10	.12½
Bacon, packed ..... do....	.10	.10	.10	.10	.12½
Beans, in barrels, boxes, or sacks ..... do....	.10	.10	.10	.10	.12½
Beef and pork ..... per bbl..	.30	.30	.30	.30	.45
Beef, smoked, in boxes or barrels ..... per 100 lbs..	.10	.10	.10	.10	.12½
Butter, in wood ..... do....	.12½	.12½	.12½	.12½	.15
Cheese ..... do	.12½	.12½	.12½	.12½	.15
Corn meal ..... per bbl..	.20	.17½	.20	.20	.25
Cotton, in bales ..... per bale..	.75	.75	.75	.75	1.00
Cotton-seed oil, C. L ..... per bbl..	.75	.75	.75	.75	1.00
Flour, in barrels ..... do....	.20	.20	.20	.20	.25
Fruit:					
Dried, N. O. S ..... per 100 lbs..	.12½	.12½	.12½	.12½	.15
Green, N. O. S., prepaid, or grnt'd, rels'd ..... do....	.12½	.12½	.12½	.12½	.15
Grain ..... do....	.10	.10	.10	.10	.12½
Hides:					
Dry, loose, or in bundles ..... do....	.15	.15	.15	.15	.20
Dry, in bales ..... do....	.15	.15	.15	.15	.20
Green ..... do....	.12½	.12½	.12½	.12½	.15
Lard, in buckets, tierces, kegs, or cases ..... do....	.10	.10	.10	.10	.12½
Lumber ..... per 1,000 ft..	4.00	4.00	5.00	6.00	6.00
Oranges and lemons ..... per 100 lbs..	.25	.25	.25	.25	.30
Potatoes, in barrels ..... do....	.20	.17½	.20	.20	.25
Salt ..... per sack..	.20	.20	.20	.20	.25
Salt, table ..... per 100 lbs..	.20	.20	.20	.20	.25

C. L.—Car-load. N. O. S.—Not otherwise specified.

ST. LOUIS AND MISSISSIPPI VALLEY TRANSPORTATION COMPANY.

[Rates in effect March 1, 1890.]

Articles.	St. Louis to New Orleans.	Articles.	St. Louis to New Orleans.
Apples, green, in barrels .. per barrel..	$0.35	Grain ..... per 100 lbs..	$0.17½
Apples and peaches, dried, C. L., per 100 lbs	.20	Hides:	
L. C. L ..... per 100 lbs..	.30	Dry, loose, or in bundles ... do....	.50
Bacon, packed ..... do....	.17½	Dry, in bales ..... do....	.35
Beans:		Green ..... do....	.30
In boxes ..... do....	.40	Hops, baled ..... do....	.40
In barrels or sacks ..... do....	.30	Lard:	
Beef and pork ... . per barrel..	.52½	In buckets ..... do....	.25
Beef:		In tierces, kegs, and cases do....	.17
Smoked, in boxes or barrels, per 100 lbs	.17½	Oranges and lemons ... . do....	.50
In barrels ..... per barrel..	.52½	Oranges and lemons, released .. do ...	.35
Butter, in wood ..... per 100 lbs..	.40	Potatoes, in barrels ..... per barrel..	.35
Cheese ..... do....	.35	Salt ..... per 100 lbs.	.30
Corn meal ..... per barrel..	.35	Salt, table ..... do....	.35
Cotton, in bales ..... per bale..	1.25	Tallow, N. O. S ..... do....	17½
Cotton-seed oil, C. L ..... per barrel..	.80	Tobacco, unmanufactured, in hhds., per 100 lbs	.20
Flour, in barrels ..... do....	.35	Wool:	
Fruit, dried:		In bags .... do....	.50
N. O. S., C. L., per 100 lbs	.20	N. O. S., pressed in bales, per 100 lbs	.25
N. O. S., L. C. L .... do....	.30		

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified.

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OCEAN STEAM-SHIP COMPANIES.

[Rates in effect March 1, 1890.]

Articles.	White Star Line, New York to Liverpool.	Inman Line, New York to Liverpool.	Guion Line, New York to Liverpool.	Anchor Line, New York to Glasgow.
Wheat.....per bushel..	$0.10	$0.10	$0.10	$0.10½
Corn.....do....	.10	.10	.10	.10½
Flour.....per barrel..	.72	.72	.72	.60
Flour (in sacks).....per 2,240 pounds..	4.20	4.80	4.20	4.80
Bacon.....do....	7.20	7.20	7.20	7.20
Lard.....do....	6.00	7.20	6.60	7.20
Cheese.....do....	8.40	9.60	8.40	9.60
Tallow.....do....	6.00	7.20	6.60	7.20
Beef.....per tierce..	1.44	1.32	1.32	1.44
Pork.....per barrel..	.84	1.32	.84	.96
Oil-cake.....per 2,240 pounds..	3.60	4.80	4.20	4.80
Cotton.....per pound..	.00 7/8	.00 7/8	.00 1/2	.....
Hops.....do....	.00 1/2	.01 1/2	.01 1/2	.01
Tobacco.....per hogshead..	7.20	8.40	.....	6.00
Rosin.....per 280 pounds..	.72	.72	.....	.54
Lard (in small packages).....per 2,240 pounds..	8.40	8.40	8.40	8.40
Tobacco (in cases).....per 40 cubic feet..	4.80	*1.92	4.80	6.00
Apples.....per barrel..	.72	.84	.72	.84
Hams.....per 2,240 pounds..	7.20	7.20	7.20	7.20
Butter.....do....	9.60	9.60	9.60	9.60
Measurement per ton (40 cubic feet).....	3.60 to 9.60	4.80	4.80	4.80 to 6.00
Primage.....per cent..	5	5	5	5

Articles.	North German Lloyd Steam-ship Company, New York to Bremen.	General Transatlantic Company, New York to Havre.
Wheat.....per 100 pounds..	$0.22½	‡$0.12
Corn.....do....	.22½	‡.12
Flour.....per barrel..	.72	1.00
Flour (in sacks).....per 100 pounds..	.27½	.25
Bacon.....do....	.36	.....
Lard.....do....	.30	.35
Cheese.....do....	.42	.....
Tallow.....do....	.30	.25
Beef.....per tierce..	1.50	1.25
Pork.....per barrel..	1.20	1.00
Oil-cake.....per 100 pounds..	.30	.25
Cotton.....per pound..	†.00 5/8	.00½
Hops.....do....	†.00½	.....
Tobacco.....per hogshead..	7.50	7.50 to 8.00
Rosin.....per 280 pounds..	.75	.....
Lard (in small packages).....per 100 pounds..	.42	.40 to .50
Tobacco (in cases).....per case..	1.70	§10.00
Apples.....per barrel..	.90	.90 to 1.00
Hams.....per 100 pounds..	.36	.....
Butter.....do....	.60	.....
Measurement per ton (40 cubic feet).....	4.80 to 10.00	8.00 to 10.00
Primage.....per cent..	.....	5

* Per case. † And 5 per cent. primage. ‡ Per bushel. § Per 40 cubic feet.

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DEPARTMENT OF AGRICULTURE.

REPORT OF THE STATISTICIAN.

New Series. Report No. 72.

REPORT

OF THE

CONDITION OF WINTER GRAIN,

THE

CONDITION OF FARM ANIMALS,

AND ON

FREIGHT RATES OF TRANSPORTATION COMPANIES.

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

APRIL, 1890.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1890

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APRIL REPORT.

DEPARTMENT OF AGRICULTURE,
April 11, 1890.

SIR: The April returns relate to the condition of winter wheat and rye; the degree of injury from freezing and thawing; the amount of protection during the winter by a covering of snow, and the facts of seeding, germination, and early growth during the autumn. The soil of the central valley region was too dry and hard for early seeding, yet the mild winter caused large growth and root development. There was a more favorable season for seeding in the South. The Pacific coast seeding was delayed by excess of rain and subsequent snow. The winter was mild east of the Rocky Mountains; growth almost continuous to March, when frosts appeared and wrought extensive injury to the tender growth, which in the South was so far advanced as to be jointed in early-sown fields.

Another series of inquiries relates to the condition of farm animals; their comparative healthfulness; the prevalence of disease among them during the past year, and estimates of losses by disease or accident during the twelve months past.

The usual records of changes in freight rates of railroad and steamboat transportation of farm products are also presented.

Respectfully,

J. R. DODGE,
Statistician.

Hon. J. M. RUSK,
Secretary.

CONDITION OF WINTER GRAIN.

Seeding was late in the States of the central valleys, because of drought, and the soil was therefore not in the best condition; but the mild winter continued growth until the plants were too luxuriant to withstand the usual vicissitudes of March. Recent frosts have cut down the growing plants quite generally, and in wet or submerged areas the roots have been destroyed. There are reports of recuperation by sprouting and renewed growth in this region. Where the roots are intact great improvement will follow, with good weather. The fact that the roots are so well developed is favorable to improvement.

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In the South the soil was generally in better condition, and the early sown developed rapidly, and in December and January suffered more or less from attacks of the Hessian fly. In March frosts were very general, discoloring and sometimes killing the plants down to the ground, but not injuring the roots except in wet places.

The crop looks brown in New York, but the State agent believes it is better than it looks. The other Middle States return wheat in good condition.

The Pacific coast has had an extraordinary amount of rain and snow, which have delayed seeding and injured the early sown areas.

The present condition of wheat, as consolidated, averages 81, indicating an apparent loss in vitality, or crop potentiality, of 19 per cent. from a normal standard of full condition. This is mainly the result of winter killing, as the status of the crop was relatively high before the March frosts. A report on the 1st of April, from New York and Michigan at least, is too early to indicate very accurately the condition of wheat. Appearances are sometimes deceptive at that date in the northern belt. If the roots are badly injured, and April weather proves unfavorable, the crop may show still worse at the next report; but if the bare and brown fields look desolate, while well-established roots are alive, there may be a great improvement during April.

In comparison with former years condition scores one point lower than in 1888; and in ten years there are only two lower records, that of 1883 and that of 1885. This is by no means conclusive as to the product. The very poor crop of 1881 was in better condition in April than the present, averaging 88, and dropping to 74 at harvest, from the effects of drought and rusts.

The averages of condition of principal States are as follows: New York, 88; Pennsylvania, 99; Ohio, 87; Michigan, 67; Indiana, 75; Illinois, 75; Missouri, 83; Kansas, 87; California, 71.

The following statement gives the average percentage of condition of wheat and rye, April 1, 1889 and 1890:

States.	1889.		1890.		States.	1889.		1890.	
	Wheat.	Rye.	Wheat.	Rye.		Wheat.	Rye.	Wheat.	Rye.
Connecticut	87	86	98	99	Tennessee	98	96	80	82
New York	94	95	88	89	West Virginia	92	94	95	97
New Jersey	94	97	99	99	Kentucky	97	95	86	95
Pennsylvania	93	94	99	97	Ohio	88	90	87	92
Delaware	97	96	99	99	Michigan	87	96	67	85
Maryland	95	93	99	99	Indiana	94	95	75	89
Virginia	96	96	98	96	Illinois	97	93	75	90
North Carolina	94	92	79	89	Missouri	95	88	83	94
South Carolina	93	96	76	87	Kansas	96	95	87	93
Georgia	92	95	70	83	California	98	96	71	87
Alabama	94	96	77	94	Oregon			92	98
Mississippi	90	92	75	92					
Texas	97	98	74	76	Average	94.0	93.9	81.0	92.8
Arkansas	97	96	92	91					

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The reported dates of seeding, with average date in each State, are given as follows:

States.	From—	To—	Average.	States.	From—	To—	Average.
Connecticut	Sept. 1	Nov. 1	Sept. 25	Arkansas	Sept. 1	Dec. 18	Oct. 22
New York	Aug. 15	Nov. 15	Sept. 20	Tennessee	Sept. 1	Dec. 20	Oct. 21
New Jersey	Aug. 25	Nov. 5	Sept. 29	West Virginia	Aug. 15	Dec. 1	Oct. 3
Pennsylvania	Aug. 15	Nov. 10	Sept. 17	Kentucky	Aug. 15	Dec. 1	Oct. 6
Delaware	Sept. 10	Nov. 10	Oct. 10	Ohio	Aug. 15	Nov. 20	Sept. 23
Maryland	Aug. 25	Nov. 25	Oct. 7	Michigan	Aug. 15	Nov. 15	Sept. 18
Virginia	Sept. 1	Dec. 20	Oct. 14	Indiana	Aug. 25	Nov. 25	Sept. 24
North Carolina	Aug. 15	Feb. 1	Oct. 31	Illinois	Aug. 15	Dec. 5	Sept. 30
South Carolina	Sept. 15	Jan. 1	Nov. 5	Missouri	Aug. 15	Nov. 30	Sept. 25
Georgia	Sept. 1	Jan. 1	Nov. 8	Kansas	Aug. 1	Jan. 1	Sept. 30
Alabama	Sept. 1	Dec. 20	Nov. 20	California	Sept. 1	May 1	Dec. 19
Mississippi	Sept. 1	Jan. 20	Oct. 28	Oregon	Sept. 1	Mar. 31	Nov. 10
Texas	Aug. 1	Mar. 1	Nov. 1				

The Hessian fly is reported in the Southern States, quite unequally distributed, in some places doing little damage, in others considerable. Some fields in Virginia are represented as almost entirely destroyed. Much injury is indicated in returns from several counties in North Carolina, especially Anson, Durham, Harnett, Nash, and Northampton. In Davidson and Franklin the estimated loss is 20 per cent. The greatest damage reported in South Carolina is from Abbeville, Anderson, Fairfield, Spartanburgh, and York. The injury is said to be greater than ever before known in Chesterfield, South Carolina, the plant entirely destroyed in places in Newberry, and injured materially in Barnwell, Laurens, Lexington, and Williamsburgh. Georgia reports quite general prevalence of this insect, causing the loss of half the wheat in Banks, Gwinnett, Haralson; one fourth in Campbell, Carroll, Jefferson, and Wilkes, and less in Catoosa, Dawson, Marion, Meriwether, Dooly, Oglethorpe, Pickens, Taylor, Warren, and others. A few reports of loss come from Mississippi and Arkansas, and several from Texas, notably from Bosque, Collin, Grayson, Jones, Morris, Stephens, and Rockwall. In Tennessee the insect has been prevalent in Anderson, Campbell, Cheatham, Greene, Hawkins, Hickman, McMinn, Lincoln, Monroe, Montgomery, and Robertson.

In the upper part of the Ohio Valley the Hessian fly is noted at many points, but has not been very destructive. The highest estimated injury in Indiana is 15 per cent. More numerous references are reported in Illinois, but one reporting as much as 10 per cent. injury. Some twenty counties in Missouri report slight damage from slight loss to 17 per cent. Kansas makes similar returns The aggregate injury from this cause is not large.

As in former reports, the wheat that was drilled makes a better showing than that which was sown broadcast. The drained areas look better than the undrained. The most thorough preparation of the seed-bed is rewarded by a more vigorous stand of grain. In fine, good husbandry is rewarded by an assurance of superior yields, in this as in former years.

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The State agents make the following observations relative to the condition of winter grain:

NEW YORK.—There was a long range in the sowing of winter grain. In August and the forepart of September the ground was hard and lumpy, which delayed seeding; after which came constant rains which carried it into November. Quite a portion of the wheat and rye was hardly up before freezing weather, and much of it was thin and light on the ground. Where these crops were sown early they are looking unusually well. The winter has been very open with a great deal of rain and comparatively little snow. The snows have remained on the ground but a few days and as a result the winter grain has been exposed most of the season, with occasional hard freezings which have turned it brown. Except on very heavy land the wheat has not been thrown out and the roots are alive and the crowns are green and healthy. Winter grain and grass have grown every month during the winter. Winter grain is not killed in spots, as is usually the case. On the whole the general outlook is not much below a good average.

PENNSYLNANIA.—The date of seeding winter grain was quite varied last fall, owing to excessive rain. While most sections report a very favorable condition of wheat and rye, a few of the northern and more elevated sections report injury by the cold snap about the middle of March. This injury resulted from the tenderness of the plant. Owing to the extremely mild winter and almost continuous growth of the plant, the leaves were unable to stand a sharp freeze and the cold winds of spring. It is hoped that the injury will be found more in appearance of the leaves than in damage to the plant.

VIRGINIA.—In the main the soil at seeding time was very favorable for both seeding and germination. In some localities too much moisture was reported, retarding seeding and diminishing the area somewhat, but on the whole the weather was and has been, throughout the winter, favorable for winter grain. Very little damage has been done by the fly. Winter grain had very little protection from snow, the winter being unusually mild. A few western counties reported a snow-covering during the freeze of March, which materially helped to save the wheat. The growth at that time was very rank and much wheat was cut down, but the roots were not killed and it is now coming up again. Wheat grazed looks better than wheat not grazed.

NORTH CAROLINA.—Until the severe freezes in March there never was a brighter prospect for winter grain in this State, notwithstanding the ravages of the fly and louse, which were local and not general. Much of the wheat had jointed and rye had headed, where not pastured, in many localities. Where the stalks had jointed it is believed serious damage will result, if not a total loss; but damage by frost to young wheat generally does very little harm, especially when the growth is as luxuriant and the plant as well rooted as it was this year. The winter was so mild that the plant was not checked in growth until March 8 and 9, the date of the coldest weather during the winter.

GEORGIA.—The fall season was fairly favorable for seeding wheat and the date of sowing was about as usual, early sowings in the mountain counties commencing in September, and late sowings in middle Georgia to the last of December. The winter was unfavorably warm and dry. The "Hessian fly" is reported from some counties, but it is doubtful if it is the true fly. Fields of wheat and barley that have come under my observation were seriously injured during the winter and until March 1 by a species of insect called the "Destructive Leaf Hopper," according to Prof. J. P. Campbell, entomologist of the Georgia Experiment Station. I have observed the presence of the same insect for many years, early in the fall, and continuing until killed by the ordinary winter freezes. The past winter, however, has been remarkably mild, there having been only one really cold spell (minimum 20 Fahr.), and that occurred in November, until March 1, when the thermometer marked 19 degrees, and again March 15, 18 degrees Fahr. These cold snaps seriously injured the

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unprepared wheat, and almost ruined the oat crop. Even rye and barley were injured by the unprecedented low temperature for so late a period.

MISSISSIPPI.—The amount of wheat grown is so small that it is not worthy of report. Rye and oats are more prominent, and indications are for a fairly good crop. Farm work is very backward, at least fifteen days, on account of excessive rain. Very little plowing was done during the month of March. In the overflowed districts it will be the middle of May or the first of June before any plowing can be done.

TEXAS.—The average condition of the soil at seeding time was good. In some few instances only has the wheat growth been attacked by the Hessian fly. There was a partial drought for a time, which set the growth back some, but of late copious rains have fallen and the prospects now are the most favorable. The winter generally has been favorable. The late frosts have done some damage, but not to any considerable extent. There has been but little protection by snow, but comparatively little has fallen. It has been one of the mildest winters ever known.

ARKANSAS.—The condition of winter grain up to the first week in March was upon the whole quite satisfactory. The condition of the soil last autumn for seeding and germination was quite favorable, and the winter of unusual mildness with no snow or freezing weather worthy of note, which was favorable to the growth of the plants. The weather the last of February and the first week in March was very inclement. About that time a cold rain with some sleet set in, which continued for several days, followed by a severe freeze, and for a time greatly retarding the growth of the plants. This was again followed by more rain, making the soil wet and cold, and fears were entertained that the crop was greatly injured. At present, however, the plants seem to have recovered much of their former vigor, are free from insect enemies, and with their well stooled roots will doubtless soon recover what was lost by the March freeze.

KENTUCKY.—The remarkably open and wet winter has kept everything growing. The wheat-blades were never so long. After the freeze or frost it looked dead, but is now again growing and possibly will not be seriously damaged. The earliest wheat has suffered most. Wheat that was pastured is better than that not pastured.

OHIO.—The unusually mild and wet winter permitted wheat to grow steadily, and reports generally forecast a full average crop. Very little damage resulted from lack of snow covering, as this usual protection was not needed. No particular damage by Hessian fly. In short, no discouraging features of condition exist to create apprehension of failure.

MICHIGAN.—The conditions existing between the northern and southern parts of the State have been quite different the last fall and winter; some counties reporting condition of soil favorable to seeding and plenty of snow for winter protection; other counties reporting ground dry and lumpy at time of seeding and no winter covering. In southwestern part there has been no snow, and yet the conditions have been favorable; the winter having been so mild wheat has done well and grown most of the time. In some of the central counties, in fact in all counties where the soil is mixed heavily with clay, the freezing and thawing have caused the soil to heave, and no doubt much damage must result.

INDIANA.—The soil at the time of seeding was in splendid condition. The winter was very favorable for the plant until three weeks ago. Its growth was rank and tender, and the severe freeze in March damaged it very much. There was little or no damage from the Hessian fly.

ILLINOIS.—In most sections the condition of the soil was favorable to seeding and germination. In a few localities planting was delayed for a time by dry weather. On the whole, the fall was favorable and wheat was up to about an average in condition at the beginning of winter. The winter was unusually mild, February emphatically so, starting growth of the plant and putting the more tender varieties in a condition to be seriously injured by the zero weather of the first week in March.

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There has been very little snow protection, less than for several years past. There has been sufficient moisture during March, but a few days of warm sunshine will be required to determine the extent of the injury by the late freezing. There is some damage done by the Hessian fly in the early sown wheat and that on stubble ground.

WISCONSIN.—The condition of the soil at the time of seeding was poor on account of continued drought, and much of the seed did not germinate. No damage from the Hessian fly is reported. The winter has not been favorable to the plant. There has been but very little plant growth from the fact that there was no average start given the plant during the fall. Wheat has had but little protection by snow; the fall has been light, and it remained on the ground but a few weeks. Thawing and freezing while the ground was bare has damaged the plant somewhat and in a few localities it is thought it is entirely killed. Heavy rains from March 22 to the end of the month, at short intervals, it is confidently believed have materially improved its condition. The ground has contained but very little frost compared with other winters. Many fields prior to the rains presented a brown color but have improved.

IOWA.—The past winter has been very mild. Snow did not remain on the ground more than two or three weeks. Winter grain suffered some from the cold and changeable weather during the first twenty days of March.

MISSOURI.—Quite favorable conditions prevailed at wheat seeding time last fall, excepting that the soil was a little too dry in a few localities. General rains were not long delayed, and the seeding was finished at about the usual period. Germination was fair. Fine growing weather continued through the fall and well into the winter, inducing a rank growth, and the winter has been so mild that in some sections the plant did not cease growing until late in the winter, and in many instances is reported to have jointed. These conditions which made the plant look well were in reality unfavorable, for with the first of March came severe weather, and the plant, being tender and full of sap, has suffered. Thus while the winter, almost to the close, was apparently favorable, it can not be said to have been so in fact. Protection by snow has been very limited, almost nothing. This lack of snow doubtless adds somewhat to the bad appearance of wheat by causing it to be bleached and look dead when it is not.

KANSAS.—The soil was dry in the early part of the seeding season, but in fair condition later. The seed germinated well, and a good stand was secured. The growth of the plant has been fair; no damage worthy of note from the Hessian fly, and while we have had but little snow, the winter has been mild, and wheat and rye fields now look well.

CALIFORNIA.—The condition of the soil at seeding time was very unfavorable owing to too much rain. As the rains commenced in October, very little wheat had been sown, and owing to the continued wet weather throughout the winter a large percentage of that which was sown early was drowned out. The condition of growth is much varied, good on dry soils, indifferent and bad on low lands. The crop is generally very backward. No perceptible damage from the Hessian fly. The same may be said of rye and barley.

The remarks of correspondents concerning wheat are too voluminous for publication entire, but the following, relating to present condition in the central winter wheat States, are given a place:

KENTUCKY.—*Adair:* The late cold spell has damaged the prospect; it is now below the average. *Magoffin:* The plant is now in good condition. *Oldham:* Was in fine condition until March 6, when it was so injured by freezing that no definite estimate can be made as to the ultimate result. Most of the green blades were killed, but they are putting out again. *Robertson:* Looks well, the season having been very favorable. *Trigg:* Made a vigorous growth to March 1, when most of the blades were killed and the plant permanently injured in some cases. It has improved, how-

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ever, within the past two weeks. *Butler:* Some injury from the March freeze. Condition now good. *Garrard:* The plant was two months in advance of the usual season; was killed to the ground in March but the root not destroyed. There appears to be plenty of vitality left for growth and yield. *Henderson:* Growth very rank till the last of February when it was frozen apparently dead, but is now recovering and looks green and healthy. *Lincoln:* Growth too forward; some injury from the freeze of March 1. *McLean:* Killed where jointed when the freeze occurred; where this was not the case it has grown out again and looks healthy. *Todd:* Much injured by frosts, the growth being very luxuriant and tender. *Rock Castle:* Prospect and growth fine all winter, but the late cold snap has done considerable injury. *Bracken:* Condition good; prospect of a full crop. *Carlisle:* Condition good; growth two weeks in advance of the average. *Lyon:* Fine growth; condition fairly good. *Jackson:* The plant is well stooled and looks fine. *Graves:* Condition medium; growth rapid. Early sown so large that it was necessary to graze it. Late sown is in better shape now than early *Fayette:* Splendid growth until caught by the March freeze. Much that was jointed was killed to the ground, probably one-fifteenth entirely destroyed. Some has started to grow again but its appearance is not satisfactory. *Daviess:* Was better grown March 1 than is usual the middle of April. Some farmers think that the condition was improved instead of injured by the recent freeze, others think the crop totally ruined. Late sown will probable escape without serious damage; early sown is apparently destroyed. *Caldwell:* Made a fine growth during the winter; has been killed to the ground by the freeze of recent date. *Bath:* Growth set back by the March freeze, but the plant is now doing well. *Boone:* Condition lowered and growth retarded by the March freeze. *Franklin:* Showed a remarkable growth March 1, when the tops were cut down by a freeze. That which was in joint has been damaged beyond recovery. Late sown is in fine condition. *Clark:* Growth luxuriant; many farmers grazing the crop to keep it back. *Campbell:* Made a fine growth through the winter, and is now in good shape. *Breckinridge:* Growth and condition fine up to March 1, when it was injured by freezing; how much can not now be estimated. *Bullitt:* Condition and growth good. The tops of early sown were killed, but it is beginning to "green up" again. *Clinton:* Killed to the ground in February and March, is now growing again, but condition is rather poor. *Fulton:* In fine condition. *Marshall:* Was injured by a freeze first of March, but now looks thrifty and green. *Owsley:* Early sown grew too rapidly through the winter; was somewhat injured by the recent freeze, but is now in good condition and growing rapidly again. *Powell:* Much damaged by the recent cold spell. *Scott:* Damaged by March freeze. *Perry:* Growth good. *Owen:* In good condition; growth rank. *Nelson:* The growth was remarkable and the promise finest ever known till March 1, when it was damaged to some extent, but is now on the way to recovery. *Muhlenberg:* Condition poor. *Marion:* Seriously damaged by March freeze, and now in poor condition. *Jefferson:* Early sown, which was jointing, was killed, or nearly so, by the March freeze. Late planted may perhaps make an average. *Hart:* Fine growth until the freeze of March 1, when it was killed down to the joint. It now looks thrifty and vigorous. *Hancock:* Growth fine to March 1; since that time the prospect has become very gloomy. *Greenup:* Prospect injured by the freezing spell of March, especially as to the late sown. *Green:* Generally healthy, but very irregular in growth. *Gallatin:* Growth too rank, owing to the mild winter, and the crop promised to be all straw until cut down by the hard freeze of recent date. Its condition now indicates a full crop; 50 per cent. above that of last year. *Webster:* Grew finely, and was too forward February 15. *Allen:* Had made a large growth, and was seriously damaged by the March freeze, some being killed out. The plant now looks pale and weak. *Anderson:* About an average as to growth and condition apparently, but it is difficult to tell yet what damage was done by the freezes of March. *Washington:* In poor condition; the growth was fine up to the recent severe spell which turned the fields brown, freezing and killing

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out much. The injury must be fully 15 per cent. *Warren:* Looked well until frozen in March. All that had jointed was killed, and all seriously injured. *Spencer:* Growth luxuriant March 1, the stock having jointed in some instances. A hard freeze at that time did much damage; the plant appears now to be burnt or scalded, but the root is thought to be safe and the bud uninjured. *Shelby:* Growth very rank March 1. The fields were all browned and apparently dead after the freeze, but are now looking better. *Martin:* But little sown, owing to the unfavorable weather in the fall. *Montgomery:* All conditions were favorable to a good stand and growth throughout the winter. *Morgan:* Present growth not so good as in January and February, owing to recent frosts. *Rowan:* In good condition. *Simpson:* Growth extremely forward, some having jointed March 1. The severe weather at that time damaged all and killed some. *Union:* Condition poor. Much of the crop is water killed on low lands. The growth was too rapid, exposing the plant to injury from the March frosts. *Lewis:* In fairly good condition; recovering from the effects of recent frosts. Drilled is much better than broadcast sown. *Lee:* Very promising. *Hardin:* Continued growing all winter. Some was in joint March 1, since then it has been considerably damaged by wet weather. *Ohio:* In bad condition by reason of the warm, wet winter followed by March freezes. In some localities a total loss is reported. *La Rue:* Made an unusual growth up to February 20. *Henry:* Grew finely throughout the winter, but the continued wet weather, quickly followed by freezing about the 1st of March, materially damaged the plant—to just what extent can not now be told. *Calloway:* Has stooled finely and looks vigorous; in many cases has been pastured heavily. *Pendleton:* Growth was unchecked up to March 1. No material injury done then. *Pulaski:* Condition better than usual, especially where fertilized. Some slight injury was done by the recent freezing spells. *Jessamine:* Looks very bad, having been greatly damaged, and in some places killed by the severe weather of March 1. *Laurel:* The plant was well set and the growth unusually fine until checked by a killing frost and about ten days of winter weather at the beginning of March. It was cut down to the ground, but is coming out again and now looks fairly well. *Wolfe:* Condition and present growth good. *Hickman:* Condition 50 per cent. below that of last year, owing to a severe freeze March 16. *Estill:* Looks well generally, but on low lands has been somewhat injured by the wet weather. *Barren:* The plant made excellent root and growth until about March 1, when a severe freeze came and killed it to the ground, doing great damage. We do not now expect a half crop. *Carroll:* The warm weather of December and January caused the plant to make an unusual growth, and the severe freeze of March found it exceedingly tender. Many plants are killed and the fields present a sickly yellowish appearance. *Christian:* Growth vigorous through the warm winter until about March 15, when the most advanced fields were killed to the ground. Much of it is now coming out green again and the prospect is better. *Fleming:* Came up well and made a vigorous growth until March 1, when a killing frost occurred which did serious damage.

OHIO.—*Knox:* Made a good growth early in the winter. *Ashtabula:* Fully up to average in condition, although it was severely tried by the freezing and thawing of March. *Champaign:* Much of the crop apparently dead, and a part actually so. *Clark:* Made remarkable growth up to February 25; since then has been injured by excessive rains. *Clermont:* Continued growing all winter. *Crawford:* Made a slow growth during the winter. *Defiance:* Late in starting a growth, and now suffering from the severe weather of March. *Fairfield:* Growth checked by the cold weather of recent date, but still the finest ever seen at this season. *Greene:* Looked fine until the March freeze; is now in fair condition, promising an average crop. *Lorain:* A fine growth and well rooted. *Muskingum:* Growth good during the early part of the winter. Injured by frosts in the latter part of February. *Tuscarawas:* Growth remarkable till March 1; the plant was then frozen, and some fears felt lest the root might be hurt also, but it is now considered safe. *Harrison:* Injured by freezing and thawing in March; the extent of damage can not yet be determined. *Jefferson:* Was

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cut close to the ground in March, but is coming out all right now. *Lawrence:* Hurt by the late freeze, to what extent can not now be told. Injured on low lands by the excessive rains. *Meigs:* Condition above the average; growth scarcely interrupted during the winter. *Warren:* Growth average; condition fair. *Washington:* Made a good growth in December, and is now in fair condition. *Wood:* Well rooted, and in fair condition. *Allen:* Condition low; growth very feeble. *Guernsey:* Injured by the alternations of temperature in March. *Huron:* Grew finely all winter, but has suffered from the severe weather of March. *Clinton:* In a sickly condition, being damaged during March by wet and freezing weather. *Hamilton:* Fine growth up to March 1; since then has suffered from cold weather and excessive rains, and is now in bad condition. *Hardin:* Badly heaved up. *Highland:* Excellent growth. *Lake:* In good condition. The indications are for a fair crop. *Paulding:* Has made no growth, and is badly heaved out by freezing; the poorest prospect in many years. *Richland:* Not much growth. Present prospect not so good as the earlier part of the season gave reason to expect. *Union:* Growth good, owing to mild season and abundant rains. *Vinton:* The finest growth ever known. *Miami:* Growth fine to February 1, when a severe freeze occurred, doing great damage, especially on clay lands. The outlook is exceedingly poor. *Columbiana:* The plant is in splendid condition as to growth, and is very even on the ground. *Geauga:* Condition above the average. *Monroe:* Growth fine, condition good. *Wyandot:* Growth and condition injured by the March freeze, the plant being very tender when the severe weather occurred. *Belmont:* Condition good; growth two weeks in advance of the season; some danger to the plant still from the continued freezing weather. *Carroll:* Growth in excess of any thing ever known for the season; some damage from recent frosts. *Erie:* Made a fine growth during the winter, but has suffered from the cold weather of March, and now looks bad, especially on undrained lowlands. *Logan:* Present growth good. *Lucas:* Prospect poor. *Summit:* Made a fine growth last fall, but was injured by a succession of freezing and thawing spells, and is now in poor condition. *Wayne:* In fair condition; the damage done by the March freeze can not be determined yet. *Adams:* Made a good growth during the winter and is now in good condition. *Delaware:* Growth continuous through the winter, and the plant being very tender was seriously hurt by the March freeze. *Seneca:* The season was too cold and dry for an early start. *Sandusky:* Killed out on black land; prospect very poor; the extent of damage done can not yet be estimated. *Pickaway:* Came up well and made a rank growth; looked fine until the 1st of March, when it was injured to some extent by freezing, being very tender. *Montgomery:* Growth good until the second week in March, when it was injured by the zero weather. *Mahoning:* In good condition on high, well-drained land; on low lands it is rapidly giving way from the effects of freezing and wet weather. *Jackson:* The plant came up healthy and strong, and continued to grow all winter; the March weather has been very damaging to its growth. *Holmes:* Present growth small, but the stand is good; some damage done by the open winter, but with a favorable April the indications are that the crop will come out all right. *Hocking:* In good condition; grew all winter up to March; was frozen somewhat during that month, but is now beginning to grow again. *Gallia:* The prospect is excellent for a full crop; growth extraordinary. *Henry:* The condition of soil was very unfavorable by reason of drought, which prevented the usual acreage being sown. *Perry:* Condition of soil exceedingly favorable; growth the rankest ever known, many fields being completely covered and the plant jointed. Present condition not good. *Putnam:* Came up finely and has grown too rapidly, the winter being very mild; has been greatly damaged by the "cold snaps" of March. *Athens:* In good condition. *Auglaize:* The growth up to December 1 was very slow, but in consequence of the mild winter it continued to improve from that time, and by March 1 was twenty or thirty points better in condition than at the date first given. *Darke:* Badly damaged by the recent cold, freezing weather. *Hancock:* In bad condition, owing to the severe weather of March with its alternations of freezing and thawing after the wet, open weather.

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MICHIGAN.—*Saginaw:* Now in a deplorable condition. *Ottawa:* Plant small and thin on the ground. *Midland:* Plant very small and weak. Many of the fields look as if fire had run over them. *Montcalm:* Hardly visible on many fields and everywhere in a weak condition. *Jackson:* Growth small. The plant is weak but generally alive. *Mecosta:* Plant very small. On sandy soil it is in apparently good condition; on clay lands, much injured by heaving. *Ingham:* Prospect extremely poor. The plant has absolutely no top, the ground as bare as summer fallow. *Ionia:* Condition very poor except on summer fallow when there was abundant moisture. *Bay:* Has made no growth; the outlook is very discouraging. *Allegan:* Early sown has made a fine growth; late sown is small and weak. *Kent:* Early sown has a good top; late, a good root. *Lake:* Partially winter killed. *Macomb:* On summer fallows condition is good, on stubble lands almost a complete failure; 60 per cent. of the amount sown is on stubble and 50 per cent. of this will be plowed up and sown to other crops. *Shiawassee:* One-half of the amount sown will hardly make any return. *Tuscola:* The plant looks blighted; has been exposed all winter and has suffered in consequence. *Otsego:* The prospect is for the best crop ever grown in the county. *Newaygo:* The top was killed down in March, but the plant appears to be all right as yet. *Manistee:* Growth fair; injured somewhat by freezing and thawing; ground now covered by snow. *Lapeer:* Very spotted, uneven, and weak. *Crawford:* Present condition only fair *Branch:* Growth small, owing to the unfavorable condition of the ground; plant very feeble. *Alcona:* Growth weak and uneven, stand very poor. The frosts have left the plant quite brown and apparently half dead. *Cass:* Growth continued during the entire winter and the plant is now in fine condition. *Osceola:* A fair yield promised so far as can be now foreseen. *Mason:* The plant looks well on light soils; on heavy lands very little is left, owing to its unprotected state and the unfavorable weather conditions. *Monroe:* In poor condition; badly heaved out on low lands. *Muskegon:* Growth injured by the sudden changes of temperature and the plant now in a backward condition. *Oakland:* Failed to germinate well and entered upon the winter in very poor condition; has been injured by repeated freezing and thawing. *Wayne:* The plant looks dead; is not visible at all on many fields. *Gratiot:* Growth small; prospect poor. *Gladwin:* Too dry; growth very poor. *Benzie:* The season was rather dry, but early sown started fairly well. *Berrien;* In fairly good condition now, but is being injured by the cold nights and warm days. *Genesee:* Did not come up until November 12. Is now in poor condition. *Isabella:* Did not germinate readily; present growth small; condition weak. *Leelanaw:* In poor condition, making no growth. *Eaton:* The plant made no growth in the fall. Present prospect the poorest in many years. *Missaukee.* Too dry early in the season; too cold and wet later. *Roscommon:* Condition and growth good.

INDIANA.—*Adams:* Soil too dry at seeding-time, so that the plant germinated slowly and is now very small and tender. *Cass:* Early sown has made a good growth; late is delicate. There are various opinions as to the injury done by the freeze of March, but it is generally supposed to be considerable. *St. Joseph:* Condition and present growth good, except on clay soil, which constitutes about one-fourth of the lands of this county; on these it has been damaged about 30 per cent. by the alternate freezing and thawing of March. *Dearborn:* Growth during the fall not so good as usual; better through December than at any time since seeding. *Elkhart:* Present condition uniformly good. *Fountain:* Made a fair growth during the fall. *Kosciusko:* Grew finely until March; since that time it has suffered severely by freezing. *La Porte:* The plant made a good, firm root and sufficient top by the first of December to have stood hard freezing. *Monroe:* Grew finely all winter, but 20 per cent. was killed by the March freeze, early sown suffering most. *Owen:* Greatly damaged by the severe weather of March; the plant is yellow and apparently killed, giving no possible hope of anything above 70 per cent. of an average crop. *Vermillion:* Growth poor and condition very unfavorable. *Jasper:* Stood the winter well, but now in a backward condition from continued freezing and thawing. *Jay:* Looks bad; much is winter

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killed by freezing and thawing. *Madison:* A fine growth up to March 1, when the mercury went down to 6° below zero, and the plant being in a tender state was frozen to the ground. *Morgan:* Condition and growth less favorable now than during the winter months. *Ohio:* Good on rolling and sandy lands or when well fertilized; on flat lands there will not be one-fourth of a crop made. *Pike:* Had made a remarkable growth March 1, some being jointed when a severe cold spell came, killing the plant down to the ground and probably damaging the roots to some extent. *Ripley:* The plant was well rooted and fairly developed March 1 and the condition most promising; at that date it sustained considerable damage from freezing and now appears "stunned" and discolored, looking more like stubble than a growing crop. *Rush:* Growth excellent until the late freeze; the prospect is now the poorest ever known, the greater portion of the plant being utterly killed. *Scott:* Tops killed by freezing; plant damaged, especially on wet lands. *Floyd:* Has suffered greatly from being overflowed on the Ohio River bottoms where the water has been standing for many days. *Harrison:* Cut to the ground and discolored by the recent freeze, but now fast reviving; getting greener every day. *Knox:* A rank growth; damaged somewhat by March freeze. *Whitley:* In fair condition. *Wells:* Made its greatest growth in December. The tender plant was greatly damaged by the March freeze. *Wayne:* Growth and condition most satisfactory until recent freeze, which heaved much of the plant out of the ground. *Warren:* Damaged by freezing and in poor condition. *Vigo:* Condition bad owing to the cold weather of March. *Union:* Many fields totally ruined by the freezing weather of March. *Tipton:* Grew throughout the winter until March 1, when it froze to death. *Tippecanoe:* Grew all winter till late in February when it was damaged by cold weather. Present condition only fair. Late sown badly injured. *Sullivan:* Condition good, growth two weeks in advance of the average crop year. *Shelby:* Growth very fine till the last of February; since that time badly injured by continuous rains and frost. Now in bad condition. *Posey:* Had made a rank and succulent growth to March 1, being jointed in many places. The freezing spell cut it to the ground, but it has recovered in a great measure, and except on exposed lands the injury is not serious. *Lagrange:* In fair condition. Injured some by the freeze of March. *Lawrence:* Growth good. *Henry:* Damaged 50 per cent., in appearance at least, by the freeze of March 1. *Howard:* Made fine growth in December, but the plant was tender and not well rooted, and is now in bad condition. *Jackson:* Looks well on high lands; on low lands injured by standing water and freezing. *Hancock:* In bad condition. Has made no growth, and 50 per cent. appears to be killed. *Hamilton:* Stand poor, growth small. Very much damaged by the March freezes, the plant being unusually tender. *Fayette:* In remarkably good condition to March 1; freezing weather since then has damaged it greatly and the prospect is now very gloomy. *Dubois:* Made a fine growth until March 4, when it was frozen to the ground. Has started to grow again during the past ten days and is now quite green. *Decatur:* Growth fine until the last of February, when it was cut down to the ground and much of it killed. *Clinton:* Present condition very bad. *Clay:* Damaged slightly by the March freezes. *Brown:* Injured by freezing, March 1. *Blackford:* Much killed by recent freezing. Some fields will be sown to oats. *Johnson:* Fine growth to March 1, when hard freezing cut it to the ground. The general opinion is that 33 per cent. is killed outright. *Orange:* Growth extremely forward to February 22, then badly damaged by freezing. *Switzerland:* The best possible growth to March, when a hard freeze damaged the earliest sown, which had jointed. *Vanderburgh:* Fine growth up to March 2, when the stems were frozen to the ground. Damage can not be estimated as yet, there never having been anything like the present season. *Warwick:* Looks sickly from recent freezes and wet weather; on undrained lands almost ruined.

ILLINOIS.—*Effingham:* Grew all the winter until February 25; since that time has been severely damaged by the trying weather. *Perry:* In fair condition. *Wabash:* In fine growing condition now, although it was seriously damaged by freezing in

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February and March. *White:* Made unprecedented growth during the winter until the end of February, when severe weather came, doing great injury. The extent of damage is variously estimated at from 25 to 50 per cent. *Whiteside:* From 18 to 20 per cent. winter killed. *Macon:* Late sown in bad condition; will be almost a failure. Early sown will probably make an average. *Madison:* The crop is in a critical condition. Fields on hill-sides are entirely bare, while on flat lands they promise from one-half to three-fourths of a crop. *Moultrie:* Growth was good, but the top of the plant was killed in March. *Putnam:* Growth and condition good. *Sangamon:* A good, healthy growth until the middle of February; injured since then by freezing and thawing. *Scott:* Growth and condition most promising until February, when a hard freeze occurred, and the plant being unprotected suffered severely. *Vermilion:* In bad condition; will not make a half crop. *Washington:* Growth too rank up to March 1, when the severest weather of the season came, doing much injury. What remains unkilled is in healthy condition. *Montgomery:* Thrown up and badly damaged, if not quite killed, by freezing and thawing. Under the most favorable conditions can not make over a half crop. *Fulton:* Thin on the ground, but favorable weather from present date to May 1 may bring it to average condition. *Gallatin:* Was jointing March 1; since then one-third of the crop has been killed by cold and sleet. *Lake:* Was in good condition when last seen; has been covered by snow since March 27. *Richland:* Growing well now, but the plant is small. Present condition good. *Stark:* Present condition and growth very good. *Douglas:* Much damaged by the severe freezing spells of March, the earliest and latest sown suffering most. *Hamilton:* In poor condition by reason of March frosts. *Henderson:* Growth feeble. Damaged by recent freezing to an extent which can not now be told. *Kankakee:* Damaged somewhat by the alternate freezing and thawing weather since February 25. *Lawrence:* Badly injured and some killed by freezing. Outlook very discouraging. *Livingston:* Made a rank growth to the last of February; the weather since that time has been very trying and the condition is not so good. *Marion:* In fair condition. Was exceptionally fine until the recent freezing weather set it back, but it is still in advance of the usual season. *Warren:* Growth small; plant looks brown. *Winnebago:* Growth small and thin. *Adams:* Growth large but very tender. Has been badly damaged by recent severe weather. *Calhoun:* Notwithstanding the mild winter the plant has not made a good thrifty growth. A heavy rain in January, followed immediately by a frost which penetrated 8 inches below the surface caused much spewing, especially on flat lands. *Cass:* Condition not good; 20 per cent. winter killed. Growth of the remainder is fair. *Christian:* All late sown; severely injured by the March freeze. *De Witt:* Condition fine; well rooted and has a heavy surface mat. *Boone:* A light, thin growth. *Bond:* Growth fine up to February. The past two months have been very trying and the plant is now in poor condition. *Brown:* Present condition poor. The plant is pulled out of the ground by freezing. *Marshall:* Did not make the usual growth except on bottom lands. *Franklin:* Growth and condition fine to March 1, when severe weather killed much of the tender plant. What was not killed is in fair condition. *Hardin:* Growth excessive up to March, when a freeze killed all that was jointed and that on thin lands. The rest was all badly injured, but now looks pretty well. *Kendall:* Condition and growth fair. *Lee:* In fair condition April 1. *Menard:* Present growth unsatisfactory. *Pope:* Growth and condition unprecedented to March 1. The present outlook is for nothing over a half crop. *Saline:* Made a fine growth from sowing until March, when it was badly injured by wet weather and freezing. *Edgar:* Made a remarkable growth all winter and was in a tender state when the freezing weather of March came, virtually *cooking* the plant, top, roots, and all. The prospect now is for a total failure. *Edwards:* Entirely killed on overflowed land. *Morgan:* Seriously injured. At least one-third will have to be plowed up and the remainder will not make a half crop. The rank growth, induced by the warm, wet winter, has been unable to withstand the severe weather and sudden changes of March. It has been further damaged on flat lands by standing water and ice. *Pike:* Condition extremely variable. Badly

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winter killed on low wet lands. It has made but little growth since frost left the ground. *Schuyler:* The plant made a fair growth before winter set in, and has held its own quite well up to the present time. *Stephenson:* No growth since the beginning of winter. Present outlook very poor. At least 50 per cent. of the plants seem to be killed and it continues to freeze and thaw alternately. *Bureau:* Injured since March 1 by alternate freezing and thawing. *Champaign:* Made a slow but a continuous growth up to February 1; since then the changes from freezing to thawing have done much damage, heaving the plant out of the ground. *Cumberland:* Growth fine up to March 1, when the plant was damaged near 40 per cent. by the freezing weather, it being in a green and tender state. *De Kalb:* Made good growth during the winter, but has been injured by the alternations of freezing and thawing. The present outlook is unpromising. *Ford:* Made but a poor growth during the early part of the season generally, and much has been frozen out of the ground by alternate freezing and thawing. *Greene:* Made a very tender growth, which was easily hurt by the sharp freezes of recent date, in many places being heaved quite out of the ground. On low grounds and clay bottoms the plant has a "spider-legged" appearance, that is, all but the root is out of the soil, making it stand on its legs like a spider. *McLean:* Made a very fine growth during the fall, the earlier planting completely covering the ground at Christmas. *Clinton:* The dry weather after seeding was unfavorable to a strong growth, but during the months of November and December the plant came up to a full average. The January rain-fall of 8.41 inches left it in poor condition to resist the February frosts. *St. Clair:* A considerable portion on exposed lands is frozen and "heaved out" by the severe weather of March. *Union:* Growth extra large in consequence of the mild winter, much of it being jointed. It has probably been damaged one-third by the March storms. *Calumet:* Favorable on summer fallows and clover sod of early sown. Late sown is in doubtful condition. *La Salle:* A fine growth favored by the mild winter. *McHenry:* The amount of winter wheat sown is hardly worth reporting. *Monroe:* Growth excellent up to February, when it was badly frozen and is now in bad condition. *Clay:* Growth and condition excellent up to March 5–10, when the plant was materially injured by the severe freeze.

WISCONSIN.—*Ashland:* Condition and growth can only be guessed at, the plant being covered under two feet of snow. *Columbia:* Early sown in fair condition; late sown got very little growth; not likely to make much of a crop. *Marathon:* Severe winter weather, with 12 inches of snow and ice on the ground; the plant may be killed by the ice. *Dunn:* Very poor growth made during the winter; stooled out badly and is thin on the ground; no reliable information as to present condition can be given, the fields being covered with ice. *Grant:* Somewhat damaged by recent freezing. *Green Lake:* Looks fairly well. *Iowa:* Present condition poor; growth backward and stand uneven. *Pepin:* Made very little growth before the ground began to freeze and failed to stool out well. *Polk:* Had made but a small growth at the closing up of the ground. *Sauk:* Growth small; condition poor; fears are felt that the top root is broken off. *Buffalo:* No spring growth as yet. *Dane:* Repeated freezing and thawing has given the plant a brown appearance, and some is probably winter killed. *Douglas:* In fair condition. *Eau Claire:* Present condition unfavorable; no very definite figures can be given at this early date. *Barron:* Went into the winter in fine condition; is now covered with snow and ice, and possibly some on low lands may be smothered. *Brown:* Had an even stand and was in fair shape when winter came on; has been injured some by freezing nights and thawing days; the fields look quite bare. *La Crosse:* Growth small, but the plant has a healthy appearance. *Richland:* The plant failed to stool out properly in the fall; is now small but green and healthy in appearance; has made no spring growth as yet. *Waushara:* No definite estimate as to condition can be given, as the plant is still under snow. *Winnebago:* The plant has not started to grow as yet. *Walworth:* Injured by frequent freezing and thawing, and now in poor condition.

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Vernon: The plant is dead on top and needs the most favorable weather conditions to restore the growth. *La Fayette:* Growth weak; condition not good, apparently; as we have had no very severe weather it may improve. *Pierce:* Present condition fair. *Sheboygan:* Growth and condition satisfactory. *Rock:* Ground too dry at seeding-time. Present growth is very fair, considering the length of time it had to lie before germinating. *Chippewa:* Has made but a small growth, and is now covered with ice. *Florence:* Present growth rather small. *Juneau:* Growth very backward and condition poor. *Marquette:* Growth very small. The plant seems to be alive as yet, but there is still danger of its being killed out; the freezing weather now prevailing is very trying. *Racine:* Condition very poor in consequence of the continued freezing by night and thawing by day. Some localities report a complete failure. *Waukesha:* Condition never more promising. *Monroe:* In poor condition; growth very small. *Crawford:* Now in good condition. *Langlade:* In poor condition. *Outagamie:* Growth small on the whole, early planted being much better than late; the latter failed to stool out well, and was injured by the continuous freezing and thawing of the winter.

MINNESOTA.—*Houston:* Soil too dry at seeding-time, but germination was good, as dry weather continued until beginning of winter. Fall growth was lighter than average. *Washington:* Plant is thin and short. *Steele:* Soil much too dry and much grain did not germinate. Owing to lack of snow, the outlook is poor. *Le Sueur:* Soil at seeding was very dry. Small growth; looks sickly; is very backward, and outlook uncertain. *Dakota:* Outlook is favorable for average crop. *Carver:* Soil too dry, and plant did not germinate until after September 30, when we had a little rain. Weak growth. *Wright:* Soil too dry for seeding; very small growth, and very thin; looks poor and about 60 per cent of average. *Scott:* Soil was good for early sowing but later became dry and lumpy, not more than two-thirds of seed germinated. Early seeding looks poor. *Rice:* Condition and growth are poor. *Chisago:* Snow yet on land, and the grain not yet started. *Winona:* Too dry; small growth last fall.

IOWA.—*Fremont:* Fall being so unusually dry, fall plowing could not be properly done, consequently there is no wheat or rye sown in the county. *Marion:* Rather dry early in fall, but warm weather continued late and it made fair growth. *Benton:* There were enough light showers to keep soil moist; sufficient warmth until December. *Des Moines:* Excellent to March 17, since then freezing and thawing caused damage. *Lee:* Wintered fairly well, though naked all winter. Growth is moderate. *Ringgold:* Very fine growth. *Poweshiek:* Too dry. *Wayne:* Healthy. *Wapello:* Good. Too early here for growth. *Louisa:* Condition and growth green and healthy. *Fayette:* Fair; very little growth since fall. *Davis:* Favorable condition. *Montgomery:* Soil good until drought set in. *Van Buren:* Quite dry. Sprouted well and is a good stand. *Tama:* Too dry for a good start. Present growth is below average. *Scott:* Soil was rather dry and cloddy at seeding-time and growth 2½ inches when frozen down last fall. Condition is now good. *Monroe:* Rather dry at seeding, but had some light rains that kept it growing. *Greene:* All seeding at present is storm-bound. *Clinton:* Too dry. *Clayton:* Soil was too dry. Can not tell condition, as the ground is frozen and partly covered with snow. *Mahaska:* Growth good and condition favorable. *Dallas:* Extremely dry. Most of it did not come up till November. *Clarke:* Soil rather dry at seeding-time, but light showers soon after caused a good start and it went into winter looking well. Area limited. *Allamakee:* No growth yet, but a large per cent. of wheat is alive at root; the fall growth is largely winter killed. *Appanoose:* Reduced 10 per cent. by freezing and thawing in March.

MISSOURI.—*Daviess:* Well started in growth. *Andrew:* Looks well all over county. *Schuyler:* Got a good fall growth. *Barton:* Making fine growth. *Warren:* Come up well and grew fast. Late rains improved prospect, which was poor March 1. *Washington:* Soil was very cloddy and rough from drought. Growth is very slow. *Wayne:* Very good. *Stone:* Came up and grew well all winter until March 1. *Scotland:* Be-

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gins to look green and promises well. *St. Louis:* Soil rather dry. Condition below average; growth, though uneven, is rather forward. *Polk:* Strong, but growth not as great as some seasons, owing to the cold March. *Pettis:* Soil was extra fine. Stand excellent; well rooted and of good top growth. *Osage:* Small growth. *Maries:* Early sowing unfavorable; too dry; late seeding very favorable. Hence, a large per cent. sowed late grew finely and did very well until January, but too young and tender to stand winter, and all killed out. Early sowing a poor stand from September 15 to 25. Very few fields promise a fair crop; none very good. *Gentry:* Drought in fall was bad for seeding and germination, but the unusually mild winter brought plant out in excellent condition. *Dale:* Growth and condition more satisfactory than usual, owing to better preparation of soil. *Cole:* Growth vigorous early in winter, but later drought checked it. *Clay:* About 95 for condition. *Cedar:* Suffered since February 1 by slight freezes and thaws, and it looks very feeble, especially the broadcast. *Carter:* The little sown looks well. *Barry:* Good and growth well advanced. *Atchison:* Soil very dry. Looks better, owing to late rains. *Moniteau:* Growth strong and vigorous. Considerably bleached by last cold spell in March. *Madison:* Soil too dry; not good. *Johnson:* One-fourth damaged by bad weather; the balance looks well. *Jasper:* Medium; now needs rain. *Holt:* Condition 100. *Henry:* Too wet; growth normal; wintered well until March 1, since when frequent freezing and thawing seriously damaged it. *Grundy:* Growth retarded by drought. *Clinton:* Damaged by severe cold; growth, 80 per cent. *Cedar:* Not good. *Ralls:* Growth very good. *Montgomery:* Germination good; growth splendid. *Chariton:* Early sowing is favorable, late is damaged. *Saline:* Greatly damaged in March, especially on uplands; on bottoms and timbered sections injury not so great. *Pike:* Seed germinated well; warm, open winter, followed by cold, bleak March, freezing and thawing, injuring wheat very much. *Mercer:* Condition good. *Hickory:* Much damaged by freezing; very poor growth. *Ozark:* Ground retarded by March freezes. *La Fayette:* Considerably winter killed by March freezes. *Franklin:* Growth rapid and luxuriant until recent frosts of March 1 retarded it and turned it brown, but it is now looking fine again. *De Kalb:* Good. *Benton:* Poor growth. *St. Charles:* Soil was well pulverized and moist; very poor. *New Madrid:* Grew too fast all winter and now in bad condition. *Buchanan:* Early plowed land was especially in good condition. *Bollinger:* Looked well until March 1 (though not normal). Now looks bad. *Webster:* Did well up to March 1 when the cold killed about one-half which on March 29 showed no sign of reviving. *Sullivan:* Stood winter very well; stooled out well last fall. Few last days were very hard on it; will be hurt somewhat. *Shelby:* That drilled on rolling land looks fair. *Platte:* Early sowing is A No. 1; very late is fair. *Phelps:* Looked well up to February but now indicates a two-thirds crop. *Cass:* Very good. *Jefferson:* Too favorable which caused late sowing, the soil not being damp enough for sprouting of grain, some of which was not seen for three weeks after seeding. *Linn:* Not very good; too dry and made a poor growth last fall. *Morgan:* Early seeding was very wet, rains continuing until September 17 and quitting very suddenly, leaving land in porous, thirsty condition. *Nodaway:* In fine order but too dry. Condition 99, growth 98. *Putnam:* Condition of spring and winter wheat is 90. *St. Genevieve:* Excellent. *Clark:* Soil not very good for germination and growth not average. *Texas:* Unusually good. *Scott:* Soil was excellent. Owing to warm, wet winter early planted got too much growth, and the last cold spell in March damaged it 10 per cent. *Macon:* Good growth in fall and winter. *Perry:* Looked fine until freeze in February, which caused damage in some localities. *Monroe:* Strong and healthy up to March 1; since then much damaged. *McDonald:* Average. *Iron:* Never looked better until middle of February, when we had a few hard freezes and thawing. Some fields entirely killed. *Gasconade:* Good condition. *Dallas:* Condition 90; frozen out and damaged for lack of rain; growing the ten last days. *Crawford:* Too dry at seeding time; later in October rain came, and some sown as late as October 29 now looks better than that sown early. All early sown was much injured by extreme cold of March and a great

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deal killed in ground. Growth was too rank up to March. *Christian:* Soil too wet in early stages of seeding and too dry toward the last. Very poor generally. *Caldwell:* Good condition and made healthy growth. *Audrain:* Soil dry; early sown good; late poor, small, and much damaged by late freeze. *Adair:* Excellent growth; promises to excel any former crop. *Worth:* Drought at seeding time caused slow growth in fall. Did very well. *Ripley:* Looks well but thin from freezing. *Texas:* A fair average condition for soil but a little too dry. *Pulaski:* Winter killed in many localities on upland. *Boone:* Very poor; badly winter killed.

KANSAS.—*Clay:* Looks well but needs rain. *Clark:* First seeding above average, late very small; none winter killed. *Chautauqua:* Rather light owing to Hessian fly, freezing in February, and present drought. *Cherokee:* Area 50 per cent. larger than in 1889, and condition fully 100. *Barton:* Soil very wet after September 20; generally small. *Barker:* Did well all winter; excellent condition; growth is according to age. *Trego:* No rain until late in November; 80 per cent came up; remainder did not germinate until spring. *Rice:* Needs rain and is backward owing to recent cold. *Rawlins:* Very poor; quite a number of fields have not come up yet. *Phillips:* Too dry; growth quite small and weak. *Osborne:* Put in good condition by rain yesterday. *Morris:* Excellent. *Montgomery:* Late sown in poorest condition ever seen; 10 per cent. of it will be plowed up. *Lane:* Very little growth and looks bad. *Jewell:* Late sown with press drill is very poor; that on corn-stalk land is almost an entire failure. *Garfield:* Fine and of fair growth. *Crawford:* Poor; badly frozen out; growth poor, is stunted, yellow and sickly. *Saline:* Got well rooted early in winter, but warm weather in January, followed by cold February, killed some, but still there is a good prospect for a good crop. *Johnson:* Very good on low land; growth fair. *Atchison:* Good on good land; injured on poor land by freezing of March. *Jackson:* Full average. *Hodgeman:* Best growth ever known. *Douglas:* Good except late sown, which is improved by recent rains. *Sedgwick:* Growth excellent; condition favorable. *Reno:* Drought caused good roots; a good rain to-day started it well. *Ness:* Growth good. *Morton:* Some fields injured by high winds of February and March, blowing soil from roots; general growth is quite good. *Mitchell:* Not good; growth small. *Meade:* Very little growth this winter. *Jefferson:* Growing slowly owing to wind and drought. *Gove:* Fine growing weather from December to January 9, then cold and windy, dry but little snow. *Cloud:* Very backward, much drying out for rain. *Ellsworth:* Soil was too dry, which made average sowing three weeks late; fully 110. *Brown:* Where soil was not plowed immediately after harvest it was too dry and rough, consequently germination was uneven. *Woodson:* Drilled wheat the better by 25 per cent. *Safford:* Seeding was rather late, yet the growth was good; dry, cold spring was unfavorable for growth. *Sherman:* Too dry. *Ottawa:* Soil was too dry and plant did not come up until it rained, about two or three weeks after seeding; made but little growth last fall. *Linn:* Good growth until last week, when the coldest spell of the year damaged the plant perhaps 20 per cent. *Coffey:* Early sown in fine condition; late sown much winter killed. *Pratt:* Growth fair. *Nemaha:* Soil too dry; quite fair. *Wyandotte:* Grew all winter, but since March 1 freezing and thawing killed some; ground dry and needs rain. *Smith:* Getting too dry for wheat. *Scott:* Soil good for germination until lately; now too dry; backward. *Rooks:* Not so far advanced as usual, but generally healthy; with favorable season crop will be O. K. *Russell:* Early seeding germinated, but was injured by a short drought in October; late sown did well, but the winter was dry and open and sudden freezing hurt the wheat, which looks rather brown. *Rush:* Early seeding soil was dry; late seeding soil was wet. *Miami:* Generally good, but made very little growth, owing to cool, dry weather. *Dickinson:* March was severe on wheat; early soft varieties are suffering, but hard varieties are better; rain much needed; none since November. *Cowley:* Better than average on bottom land, but can not make more than half a crop on upland, owing to dry freezing. *Neosho:* Soil rather dry; small now, owing to March freezes; late sown mostly killed; also some early sown

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on bottoms. *Lincoln:* Soil at seeding was very dry, hence the long time of putting in; not very promising. *Riley:* Condition, 100; growth, 100. *Pawnee:* September was dry; land good in October and November, hence late seeding. *Marshall:* Dry at seeding, but late rains brought crop out all right. *Harvey:* Good, but some damaged by drought and heavy wind of March 27. *Ford:* Soil very dry at early seeding, but a week's steady rain left land in good condition for late seeding; starting up good. *Ellis:* Soil favorable after forepart of October; better growth than usual and looks well; that sown before the 15th of November looks well; seeding of last half of November is poor, while that sown in December looks as well as early seeded; prospects reduced by winds recently. *Butler:* Good, but needs rain. *Bourbon;* Good all through growing season. *Anderson:* Early, the soil was dry and seed lay for some time before sprouting; later seeding was done in better condition, as rain improved the soil. *Allen:* Good; ground well covered by growing wheat.

NEBRASKA.—*Saline:* Soil could not have been better Greater part sown with wheel drill and present condition is very favorable. Just starting and looks well and green. *Lincoln:* Nearly all the soil was good for germination. *Otoe:* No. 1 condition. *Fillmore:* Normal. *Brown:* Condition 100; average growth. *Webster:* Small but hearty; growth average.

CALIFORNIA.—*Butte:* Most of the grain germinated, yet the heavy rains killed it after it came up. Acreage will be short. *Amador:* The great rains of the winter were very unfavorable to seeding and germination, preventing much grain being sown and upon low land rotting much that was sown. *Modoc:* Promises to be a bountiful yield. *Trinity:* One week in November the soil was good since that time no wheat sown. Snow now off in places and some plowing being done. *San Luis Obispo:* September was good for seeding, but too dry for germination. Condition good. *Lassen:* Abundant rain made a very fine growth; plant looks well and strong. *Monterey:* Soil was too wet. Backward at least a month. *Santa Barbara:* Seeding irregular owing to early, frequent, copious rains to date, so that not more than two-thirds of the usual amount of seeding has been done, and that is in all stages of growth. *San Bernardino:* Looks well. *San Benito:* In December and January constant rain prevailed and no seeding was done. Early sown is foul with weeds and looks bad; late sown is healthy. *Lake:* Land was too wet. Hundreds of acres near lake are under water, which will not recede in time for crop to be put in. As the lake falls farmers will follow with plow and plant corn, etc. Unless wheat comes out better than late sown generally does we will not have enough for home use. *Fresno:* Sandy soil is A No. 1; clay soil is too wet and plant on latter land is drowned out in some places. *Eldorado:* Too much rain and snow, and land was too wet to plow. *Calaveras:* Too much rain. Ground weedy. *Plumas:* Covered by snow at present. *Napa:* Unusually wet; condition backward. *Marin:* Too wet, could not get on the land. *Humboldt:* Extreme wet from last October to March prevented seeding until quite recently and very little wheat therefore will be sown this season. Only spring wheat will have time to mature. *Placer:* Soil was fine in September and October, but after then we had nearly continuous rain, consequently but little grain was sown, the land being too wet to get on. Not more than two-thirds of the usual acreage sown. *Tuolumne:* Early and warm rains continued until January 1, giving the grain a vigorous and quick growth. Some on low land was drowned out. *Tehama:* Soil excellent when seeding began, but long-continued rains prevented finishing. Not good and growth far under average. Prospect for a good harvest is not flattering. *Santa Cruz:* Season too wet and outlook is unsatisfactory. *Mariposa:* Early part of season was very favorable. *Mono:* Favorable condition, rendered so by irrigation. Present condition good. *San Diego:* Never better. March 15, condition 100. *Sutter:* Soil was good until December 1, since then exceedingly wet and but little seeding has been done. Excellent growth and condition good where not too wet. *Stanislaus:* Too wet and cold for seeding. Growth backward.

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San Mateo: Soil was too wet. Looks fair. *Nevada:* First of season was favorable for seeding and the latter part unfavorable. Killed on lowland, but good on upland. *Sonoma:* Soil was good from October 1 to December, but since then excessive rain prevented seeding, and growth is very slow. *Santa Clara:* Almost continuous rain since November 9 to March 10. What wheat there is looks well. *Sacramento:* Since October 15 soil was very unfavorable from excessive rain. Weak and backward.

OREGON.—*Washington:* Rather dry until late in the fall. Average condition. *Marion:* About average. *Polk:* Condition average and growth satisfactory. *Wasco:* Very good; present growth is extra. *Union:* Dry early, but better later. Very fair. *Linn:* Slow growth, but healthy. *Lane:* Acreage may be decreased because of low prices for grain. *Josephine:* Favorable early, but not so later because of storms. *Clackamas:* Too dry for early germination. Growth excellent. *Benton:* Early sown in good condition, well grown, of good color; late sown was injured somewhat by freezes in January and February. *Malheur:* All seeding deferred until spring, owing to absence of rain or water for irrigation. Seeding now progressing rapidly and soil is fine. *Klamath:* Good for germination after October 1. Fall rains rather late to permit much plowing. Condition where snow is off is good.

CONDITION OF FARM ANIMALS.

HORSES.

CONDITION.

The comparative healthfulness of horses is generally high, the exceptionally mild winter having been favorable. Taking 100 as the standard of perfect health, the general average for the whole country is indicated by 97.4, and the figures for the States and Territories range from 97 to 99 in all those lying wholly to the east of the Rocky Mountains. In those lying wholly or partly in the Rocky Mountain region, and beyond, the condition is lower, except in Colorado and Oregon, where it is 97, and in California, where it is 98. The States and Territories in which it ranges from 97 to 99 comprise nearly 94 per cent. of all the horses in the country. The lowest figure reported is 82, this being for the Territory of Idaho.

DISEASES.

The usual diseases have, of course, appeared to some extent, but it is only in rare instances that these or any other diseases of a serious character have been especially prevalent. Under the indefinite name of "distemper," sometimes rendered more specific by giving "influenza" as its synonym, disease is reported from some counties in almost all the States. In many cases it is reported as chiefly prevalent among colts and young horses, and in some as entirely confined to them.

Cases of lung fever are reported from one county or more in Pennsylvania, Virginia, North Carolina, Georgia, West Virginia, Ohio, Indiana, Illinois, Minnesota, Nebraska, Dakota, California, and Oregon. Sometimes the disease appears to to be the result of a change of climate, or

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rather, perhaps, of exposure in transportation. Thus in Wayne County, Ohio, it is reported as prevailing chiefly among horses imported from Illinois, Missouri, and Iowa. Cases of pneumonia are mentioned in reports from a few counties in Pennsylvania and Kentucky, and from one or more in West Virginia, Ohio, Indiana, Wisconsin, Kansas, and California. Pleurisy is reported from one county in Wisconsin, and in one county each in Michigan, Illinois, and Nebraska. There have been some cases of a disease described as resembling *grippe*, from which some horses have died, at least, in the State last named. Lung and throat diseases and cartarrhal affections are reported from a few scattered localities, without special designation. In Silver Bow County, Montana, some kind of throat disease has affected horses employed near smelting-works.

Under the name of epizootic, disease of one type or more—for the term is by no means exact—is reported from one county or more in Maine, Vermont, Texas, Kentucky, Ohio, Indiana, Illinois, Iowa, Missouri, Kansas, California, Oregon, Colorado, Washington, and Wyoming. Pink eye has been more or less prevalent in one or two counties in each of the following States: Maine, Pennsylvania, Georgia, Arkansas, Tennessee, Kentucky, Illinois, and Iowa.

Blind staggers is reported from a few counties in several of the Southern States on this side of the Mississippi, and from a number of counties in Texas and Arkansas. In some cases it is attributed to the use of unsound corn as feed. In Oregon it has been somewhat prevalent in several counties, in one of which it is attributed to a cold winter and the use of dry feed.

Colic is reported as having been somewhat prevalent in a few counties in most of the Southern States, and occasionally in the West.

A few cases of glanders, or of disease supposed to be glanders, have appeared in several counties in a number of the Southern and Western States. In Calhoun County, Ga., it is stated that "immediate action was taken and the disease did not spread." So in Iberville, La., "it was stamped out by killing the stock." In Rusk County, Tex., it was quickly checked. In Gibson County, Tenn., "the court ordered all affected animals destroyed." One county in Indiana, two in Illinois, one in Minnesota, two in Missouri, one each in Nebraska and California, and two each in Dakota and Oregon report cases of the disease as having occurred.

In Clay County, Nebr., about one hundred horses died from "corn-stalk disease," and some losses from the same cause are reported from one or two other counties in the State and in Kansas.

LOSSES.

The losses in the different States and Territories range from 1 to 3½ per cent. The total number for the United States is 233,519, or 1.6 per cent. of the whole number of horses. It is only in a few of the Ter-

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ritories and in States similarly conditioned as regards the want of shelter for stock that the higher percentages of loss are found.

The following table shows losses by States:

States and Territories.	Horses.	Losses.		States and Territories.	Horses.	Losses.	
		Per cent.	Number.			Per cent.	Number.
Maine	99,657	1.3	1,296	Ohio	771,607	1.3	10,031
New Hampshire	52,402	1.3	681	Michigan	477,407	1.3	6,206
Vermont	84,353	1.3	1,097	Indiana	667,577	1.5	10,014
Massachusetts	63,838	1.3	830	Illinois	1,123,973	1.7	19,108
Rhode Island	10,258	1.0	103	Wisconsin	437,820	1.4	6,129
Connecticut	51,376	1.2	617	Minnesota	394,783	1.2	4,737
New York	673,950	1.5	10,109	Iowa	1,095,300	1.5	16,430
New Jersey	96,294	1.4	1,348	Missouri	789,769	1.6	12,636
Pennsylvania	603,931	1.3	7,890	Kansas	726,318	1.5	10,895
Delaware	23,000	1.8	414	Nebraska	542,036	2.0	10,841
Maryland	130,303	1.4	1,824	California	372,084	2.0	7,442
Virginia	259,317	1.3	3,371	Oregon	186,841	2.5	4,671
North Carolina	154,229	1.5	2,313	Nevada	51,523	3.5	1,803
South Carolina	70,303	1.7	1,195	Colorado	137,835	3.0	4,135
Georgia	115,629	1.8	2,081	Arizona	32,670	1.3	425
Florida	34,737	1.8	625	Dakota	296,555	1.4	4,152
Alabama	134,805	1.7	2,292	Idaho	137,865	3.3	4,550
Mississippi	139,468	1.8	2,510	Montana	216,495	3.5	7,577
Louisiana	121,650	2.0	2,493	New Mexico	52,350	1.5	785
Texas	1,350,344	1.5	20,255	Utah	139,899	2.5	3,485
Arkansas	187,153	1.8	3,369	Washington	118,633	3.0	3,559
Tennessee	303,206	1.5	4,548	Wyoming	141,570	3.0	4,247
West Virginia	146,647	1.2	1,760				
Kentucky	390,577	1.7	6,640	Total	14,213,837	1.6	233,519

The State agents make the following notes relative to this class of stock:

NEW YORK.—Horses have wintered well. Food has been plenty and cheap, and there is a growing tendency to better care, better shelter, and more liberal feeding, which has reduced diseases and losses. No raging epidemic has appeared, and there has been no serious loss. On the contrary, there has been a general improvement of horses, and they are being bred for more weight.

PENNSYLVANIA.—The general condition is good. Distemper has reduced them slightly below the average.

VIRGINIA.—A few of the common diseases among horses are reported, but generally they are unusually healthy and their condition was never better at this season of the year.

NORTH CAROLINA.—Condition fine, owing to the mildness of the winter. Much attention is being given to improved breeds.

GEORGIA.—The health of horses has been normal. Glanders is more frequent than formerly, owing probably to the increased introduction of ponies from Texas and Arkansas.

MISSISSIPPI.—The healthfulness of horses has been good during the past year, with no diseases prevailing. Very little loss has occurred and that mostly from old age and colic.

LOUISIANA.—The health of horses is exceedingly good, and no unusual disease has been prevalent. In many sections of the State a strong interest is manifested in the improvement of this class of stock by the introduction of better blood.

TEXAS.—The healthfulness of horses has been unusually good. No fatal diseases have prevailed. Some "blind staggers," so called, has been caused by eating faulty or weevil-eaten corn.

ARKANSAS.—The comparative healthfulness of horses is very satisfactory. An oc-

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casional fatal case of glanders, spinal meningitis, and blind staggers is noted, but no disease of an epidemic character is prevalent.

KENTUCKY.—The health of horses has been exceptionally good. Some distemper and pneumonia have prevailed.

OHIO.—The comparative healthfulness of horses is good. In some localities the usual diseases are noted, but nothing of an epidemic character.

INDIANA.—Horses have wintered well, with no epidemic diseases prevailing, and very few losses from any cause.

ILLINOIS.—Owing to the mild winter and an abundant supply of feed, the comparative healthfulness of horses is good. What losses have occurred have been chiefly from old age. No unusual diseases have been prevalent.

WISCONSIN.—Horses are in a full average condition as to health. A few cases of glanders, pulmonary troubles, and epizootic have appeared, but no epidemics.

MINNESOTA.—The comparative healthfulness of horses is excellent, owing to the mild winter, good shelter, and plenty of good feed. Only the usual diseases have prevailed, and those in a mild form.

IOWA.—Horses came through the winter in good condition, and have been practically free from all disease. The usual amount of distemper and other ordinary diseases have prevailed, but to no alarming extent. Draught-horse breeding has made a marked progress, and many breeders and farmers are turning their attention to producing a superior type of roadsters.

MISSOURI.—A mild winter and an abundance of feed have brought horses through in excellent condition. Distemper has been quite general, but not unusually fatal. Glanders and lung fever have also been noted.

KANSAS.—Horses have been exceedingly healthy, with no unusual diseases prevailing. The winter has been mild and the loss from all causes has been very light.

CALIFORNIA.—The health of horses has been good generally, with no unusual diseases prevalent.

SOUTH DAKOTA.—The comparative healthfulness of horses is a full average. Distemper and influenza are noted in some localities, but no unusual disease prevails. The number and quality of this class of stock is increasing and it is a rule to use only heavy, thoroughbred males for breeding purposes.

CATTLE.

CONDITION.

The general condition of cattle is uniformly high east of the Rocky Mountain region, both in flesh and health. In almost every part of this section of the country the winter has been the mildest of which there is any record, and there has been comparatively little suffering or loss of condition from winter exposure. In the agricultural districts, where the winter climate has made it necessary that shelter and dry feed shall be abundant less than the usual amount of feed and care has been required to bring cattle out in high condition. Hay and forage crops of last year were abundant in almost every section of the country, and there has been little need of stint in animal rations. The abundance of feed has been made more apparent by the mild weather, less than the usual amount of food being required to keep up the animal heat. It is a combination of favorable conditions rarely experienced, and all live stock will enter upon the grazing season without the loss of flesh

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and condition that too frequently accompanies the transition from dry fodder to the green spring grasses.

A remarkable example of the spring-like weather which prevailed in many sections is noted in the return of our correspondent for Windham County, Conn., it being stated that grass was actually green and growing during the entire winter. In the South, and in other districts where little or no provision is made for winter housing and feeding of cattle, the mildness of the winter has been even more beneficial than farther north. Cattle have been on the range throughout the year, and grazing has been unusually good. The suffering and loss which in almost every year follows occasional storms and severe weather has been generally absent this season, though, as usual, the returns of condition are slightly lower in the districts most favored by nature than in the sections where climatic conditions necessitate care and shelter during the winter months.

For several years there has been a tendency in the South, made noticeable in our reports, to provide more shelter and feed, re-enforcing nature's bounties, and leading gradually to a better class of stock and better returns from the industry. With the best farmers, where this more humane and at the same time more profitable course is being adopted, the mildness of this season and consequent little general loss will not affect this tendency, though careless or thoughtless farmers may argue against the increased labor and care because they have suffered little or no loss this year. Intelligent stock growers realize that when cattle spend the summer storing up flesh and vitality to be needlessly wasted during the winter months by exposure to chilling blasts in a struggle to obtain sufficient nourishment from bare and wintry fields, existence will become one continuous struggle, and the transitions from plenty to poverty and poverty to plenty will give a stunted frame, reduced flesh, and disappointing results.

The present season, however, has not been everywhere one of semi-tropical mildness. This is a country of broad extent, and while one section enjoys an abnormally mild winter another suffers from arctic weather, and doubtless the people of each generally regard the season for the whole country as in accordance with their local conditions. In the States and Territories of the Rocky Mountain region and upon the Pacific coast the winter has been one of unusual severity, especially in the more northern latitudes. The snow-fall has been extraordinary and great suffering and loss among range cattle have resulted. In portions of California the winter has been characterized by unusual rain-fall, accompanied by cold and snow in the higher latitudes. In portions of Oregon, Nevada, and Montana the severity of the winter was accentuated by scarcity of forage, and besides the resulting actual loss the surviving cattle enter upon the spring range poor in flesh and of low vitality, making the coming summer a campaign for the purpose of regaining lost ground. The southern and central range districts have also

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suffered most severely from winter storms, making the past season one long to be remembered for its unfavorable conditions and heavy losses.

The general average of condition for all the States east of the Rocky Mountain region would be in the neighborhood of 98, with 100 representing perfect healthfulness and average of flesh; but the average vitality of the stock west of that district is so reduced that the general average for the country is only 94.1, a condition materially lower than the usual return. There is, however, better condition than usual everywhere except in the section referred to.

DISEASES.

In each of these annual returns the fact is made apparent that the stock of this country is very free from disease. Numerous disorders are always mentioned, but they are almost uniformly sporadic cases, a general infection of any kind being rarely reported in a district of any size. It is the rule, with very few exceptions, that American cattle are healthy and free from all disease, and the pretense of fear of disease which is used to bar our meat out from some markets of the world and the establishing of annoying restrictions upon the trade in live animals in others is but a pretense. Our cattle are grazed upon the best grasses, and the class that are shipped across the ocean have been well cared for and fattened upon the purest and best of feed. Cattle diseases are not and never have been present among us to any extent, and such foreign restrictions and regulations are but part of a general policy to protect the foreign farmer against American competition.

In the present return there is even less mention of various minor maladies than usual. The mildness of the winter and the general abundance of feeding material are sufficient reasons. It is a fact, not creditable to our agriculture, that there is annually greater loss from starvation and exposure, even outside of the ranch regions, than from all diseases. Many of the maladies usually referred to actually arise from this neglect, and too often where owners complain of obscure disorders, of "hollow horn" and "hollow tail," the cattle if gifted with speech would tell a mournful tale of hollow stomachs. This year there is less of bovine hunger and starvation, and consequently less mention of diseases which are but synonyms, or at least results from, lack of food.

In New England and the Middle States there is but bare mention of any disease, milk-fever alone being mentioned in more than one county. Pleuro-pneumonia and diseases of the lungs mistaken for it are not once mentioned, although for some years heretofore there has always been some little complaint in portions of this section, especially in districts contiguous to the great cities. From Virginia round to Texas there is occasional mention in each State of local cases of black-leg among young cattle, and diseases of various symptoms under the generic

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name of murrain. There is nowhere any serious complaint, and the mention is usually of single cases. In the Lower Mississippi Valley buffalo gnats are causing some annoyance, and in portions of Texas and surrounding States there is complaint of some febrile disorders. The States of the Ohio Valley and Northwest make only occasional mention of diseases of any kind, milk fever and black-leg appearing most frequently. Occasional loss has occurred from the effects of feeding moldy or unmerchantable corn, but much less than usual. Diseases of the digestive organs are mentioned where stock have had the run of corn-fields and fed upon the dry stalks; in portions of Kansas and Nebraska, where immense corn crops were gathered, this trouble has been so frequent as to gain the name of "corn-stalk disease." The loss has, however, been confined to careless owners, especially those making but poor provision for stock water. In the Rocky Mountain districts, while condition is low on account of the severity of the season and shortness of feed, little or no disease is present. On the Pacific coast lack of sufficient shelter and the consequent exposure to a winter remarkable for its rainfall and unsual storms and cold, left stock in rather an enfeebled condition but comparatively healthy.

LOSSES.

Despite the fact that over the greater part of the country the season was exceptionally mild, and that no diseases of severity have been met with, the past winter has witnessed more loss of cattle in the aggregate than in any recent year. In the range regions where herds can not be sheltered and where but little winter feed is provided the loss has been very heavy, heavy enough to make the average percentage of loss greater than in any year since 1887. In the present returns the loss from winter exposure is given separately, and it will be seen that nearly three-fourths of all has been from exposure. Based upon the number of cattle returned in January of the present year the aggregate losses from all causes amount to 1,927,022 head, or 3.6 per cent. Of this heavy loss more than one-half occurred in twelve States and Territories which contain but 20 per cent. of the cattle of the country. The loss is lighter than usual in other sections; merely nominal in New England and along the North Atlantic coast, and much less than usual in States of the South Atlantic and Gulf coast, though it is heavier there than in any other district except the ranch regions and Pacific coast.

From Maine to South Carolina but a very small partion of the total loss has been from exposure, less than one-half in any State, but from Georgia along the Gulf coast and north to the Ohio River the greatest part of the loss was the result of exposure, the proportion falling below one-half in but one State. The States beween Ohio and Nebraska show but a small portion of the aggregate loss to have been from exposure, in some the greater number of the deaths having resulted from errors and indiscretions in feeding. West of Nebraska the loss is

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almost entirely from stress of weather, made worse by lack of feeding material in some districts. The general average of loss from exposure is 2.3 per cent. of the total number of cattle, and the loss from all causes 3.6 per cent. The following table gives the total number of cattle of all kinds in each State on January 1, the percentage of loss from exposure, and the percentage of loss from all causes, with the aggregate loss by States:

Losses of cattle.

States and Territories.	Milch cows, oxen, and other cattle.	Losses.		
		Winter exposure.	All causes.	
		Per ct.	*Per ct.*	*Number.*
Maine	333,335	.2	1.2	4,000
New Hampshire	219,180	.2	1.1	2,411
Vermont	403,695	.5	1.1	4,441
Massachusetts	273,503	.2	1.0	2,735
Rhode Island	36,235	.2	1.0	362
Connecticut	237,040	.2	1.5	3,556
New York	2,336,007	.2	1.8	42,048
New Jersey	251,349	.2	1.9	4,776
Pennsylvania	1,790,932	.1	1.8	32,237
Delaware	56,409	.1	2.5	1,410
Maryland	269,161	.3	2.0	5,383
Virginia	691,559	.4	2.2	15,214
North Carolina	670,569	.3	2.5	16,764
South Carolina	366,971	.7	3.0	11,009
Georgia	935,434	1.4	2.7	25,257
Florida	620,152	5.0	8.5	52,713
Alabama	705,847	2.1	3.0	22,975
Mississippi	751,096	2.5	3.4	25,537
Louisiana	473,344	2.0	3.5	16,567
Texas	8,011,195	2.1	2.5	200,280
Arkansas	916,333	2.0	5.2	47,649
Tennessee	861,318	1.9	3.3	28,456
West Virginia	466,477	1.1	1.8	8,397
Kentucky	840,821	1.2	1.9	15,976
Ohio	1,777,917	.8	1.6	28,447
Michigan	1,002,042	.2	1.5	15,040
Indiana	1,560,197	1.0	1.7	26,523
Illinois	2,786,439	.9	1.8	50,156
Wisconsin	1,479,758	3	1.5	22,196
Minnesota	1,109,373	.2	1.6	17,750
Iowa	3,909,049	.3	1.8	70,363
Missouri	2,290,057	.8	2.0	45,801
Kansas	2,580,237	.5	2.3	59,345
Nebraska	1,726,441	1.0	3.0	51,793
California	966,433	7.0	10.0	96,643
Oregon	851,458	12.0	15.0	127,719
Nevada	391,926	13.0	17.0	66,627
Colorado	1,114,196	5.3	6.7	74,671
Arizona	620,960	4.0	5.0	31,048
Dakota	1,070,636	1.2	2.0	21,413
Idaho	405,997	15.5	18.3	74,297
Montana	1,014,801	15.0	17.5	177,590
New Mexico	1,403,732	3.5	4.7	65,975
Utah	479,080	7.5	10.2	48,806
Washington	453,022	12.5	16.0	72,484
Wyoming	1,228,294	6.5	7.5	92,122
Total	52,801,907	2.3	3.6	1,927,022

The State agents report upon cattle in their respective States as follows:

NEW YORK.—Cattle have wintered well, and there has been nothing serious in the way of disease or loss. Better care and shelter and more rational combination of foods are becoming a general rule among stock-raisers. Cows are being bred for

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special adaptation to the dairy, and there is much improvement in them. A number of butter factories will change into cheese factories, the latter affording more present gain. The beef interest is very limited and confined to the growing of young beef, as it costs less to fatten them.

PENNSYLVANIA.—General condition good, although influenza and milk-fever have caused a slight reduction. There is some complaint of a small fly attacking cattle at the roots of the horns, causing them to fall out, and in some cases resulting in death.

VIRGINIA.—Health and condition unusually good; never better at this season. No unusual diseases reported.

NORTH CAROLINA.—Condition fine, owing to mild winter. In some sections much attention is given to improved breeds, especially in localities where they are not allowed to run at large.

GEORGIA.—Cattle are in good condition as to health, with no prevailing disease reported. The mild winter has been especially favorable for them.

MISSISSIPPI.—Cattle wintered well until March 1, when a very severe frost destroyed all vegetation, leaving them without subsistence, and a great many died for the want of attention. The loss of cattle in the overflowed districts must be very great.

LOUISIANA.—The comparative condition of cattle is about an average. There is a marked increase in the number of grade cattle. Very little disease has prevailed, and the principal losses have been caused by starvation and neglect.

TEXAS.—The mild winter has brought cattle through in good average condition. No unusual diseases have prevailed. A few cases of "black leg," "murrain," "splenic fever" and liver diseases have existed, but to no great extent.

ARKANSAS.—Cattle are in good health, with no disease but the ordinary kinds reported. There is an increased interest in the improvement of this class of stock each year, and in many localities the "scrubs" have nearly disappeared, replaced by thoroughbreds and grades.

KENTUCKY.—Cattle are in full average condition. The loss from exposure during the past winter has been very light. Lung fever and murrain are the most prevalent diseases.

OHIO.—There is an increased interest on the part of stock-raisers to improve their herds, which naturally leads to better care and methods of feeding, with a view to earlier maturity and more remunerative prices. Fewer cattle die from exposure and neglect than formerly. No disease of an unusual nature has prevailed.

INDIANA.—Owing to the low price and abundance of food, cattle were wintered in good condition, with no loss from disease.

ILLINOIS.—Cattle are healthy and in good condition as to flesh. There have been scattering cases of clover bloat, lump-jaw, murrain, and disease from eating damaged corn in stalk fields, but no unusual epidemics.

WISCONSIN.—The comparative condition of cattle is fully an average. No losses have occurred from exposure and only a small loss from all causes. Milk fever has been the principal disease.

MINNESOTA.—The mild winter, with good care and an abundance of all kinds of food, has been exceedingly favorable for cattle. None have died from exposure, and only a small per cent. from all causes. No diseases have been prevalent.

IOWA.—Cattle are in good condition. Corn-stalk disease prevailed quite generally during the early part of the winter.

MISSOURI.—A late fall, with good pasturage and a mild winter, brought cattle through in very good condition. While the loss from exposure is not very large the heaviest portion of it was from the southern part of the State, where shelter for cattle is not deemed necessary. Black leg has been the most prevalent disease, while big jaw and lump-jaw are quite common. There have been a number of outbreaks of Texas fever.

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KANSAS.—Owing to the mild winter, with but little snow, cattle are in splendid condition. Some loss from turning into stalk fields, neglect and exposure, but no unusual diseases are prevalent.

CALIFORNIA.—Owing to early rains, which caused good pasturage, cattle are in good condition, with the exception of those in the mountainous regions or overflowed districts, where they have suffered from exposure. No particular disease has prevailed.

SOUTH DAKOTA.—The unusual mild winter and absence of snow has brought cattle through in excellent condition. No unusual disease reported. Cattle were sold very closely last fall, consequently there will be a smaller number to turn off next season. There is a tendency on the part of the farmers to grow less wheat and produce more stock of improved breeds for meat production.

SHEEP.

CONDITION.

The present returns show even more strongly than did those of January last the favor with which this class of farm animals are now regarded. The quickened appreciation of sheep husbandry as a paying branch of rural industry is gratifying from an economic stand-point, promising as it does an enlarged supply of domestic wool of superior quality, and a valuable addition to our meat product. The increased interest is apparent in all sections of the country, sheep being frequently spoken of as now a paying farm animal. In the East more attention is being given to the mutton breeds, especially in sections tributary to the great cities.

The reports from correspondents show that the meteorological condition throughout the winter which prevailed over the greater part of the country and were so favorable to other classes of stock, have in general been equally favorable to this class of animals. Feed has been abundant, and even pasturage good much north of the limit where such a thing as winter grazing is expected. Except in the Rocky Mountains and on the Pacific coast, storms have been few and not severe, so that the loss of condition from winter exposure is generally light. It is a question, however, whether in some districts the mildness of the winter has not resulted unfavorably. In too many districts sheep are a secondary and neglected item of the farm, allowed to shift for themselves unless the winter be so severe as to endanger their existence, and as a consequence during the past winter they have been allowed to run at large with less than the usual care. They are of delicate organization and any unnecessary or unusual exposure will reduce their strength and vitality, leaving them poor in flesh and especially subject to disease. In a number of cases our correspondents intimate that such results have followed the open winter just passed.

In reporting upon the present condition of live stock 100 is taken as a basis, representing normal healthfulness and average flesh. This standard, which approximates perfect condition of flocks, is of course never reached as an average for the whole country, and in the nature

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of things can be rarely attained for any considerable district. There are so many causes resulting in lowered vitality that some must always be present. The returns of this month are high, except in the disiricts that have suffered from unusually severe weather; from Nebraska eastward the average rarely falls below 95 in any State, and for the whole of this vast district the general average would not be far from 97. West of Nebraska the severity of the winter and lack of protection and feed materially lowered the standard so much that the general average for the whole country is but 93.7, or somewhat lower than that of any other class of stock. In the States and Territories having more than a million sheep the conditions reported are as follows: Pennsylvania, 98; Texas, 95; Ohio, 97; Michigan, 95; Indiana, 97; Missouri, 97; California, 96; Oregon, 83; Colorado, 90; Montana, 87; New Mexico, 95; Utah, 91; Wyoming, 90.

DISEASES.

There is less than the usual mention of disease, the mild winter and abundance of feed having operated to prevent many of the usual minor disorders. Foot-rot is most frequently mentioned, but it has nowhere prevailed to an unusual or to a serious extent. It is only occasionally mentioned along the Atlantic coast, usually attributed to neglect and exposure to inclement weather. Diseases in the lungs are mentioned in a few counties resulting from the same causes. Correspondents in Texas, Arkansas, and Tennessee make occasional reference to scab, and some counties along the Ohio River report "paper skin" among lambs and young animals. Rot and scab are present in a few flocks in this section, but the resulting damage and loss is slight. In the States west of the Mississippi River there is little complaint of any disease, though loss is occasionally met with from foot-rot, scab, and troubles of the digestive organs resulting from feeding on dried corn-stalks.

LOSSES.

The reported loss during the year is very heavy, the largest both in percentage and aggregate numbers since the winter of 1885. The greater part of the loss has been from winter exposure in the pastoral districts of the West, though the loss in many sections of the country where the winter was phenomenally mild is heavier than usual. This is an apparent anomaly in the face of the fact that less than the usual run of disease has prevailed, and can only be explained upon the supposition that the mildness of the weather resulted in unusual negligence among flock owners, causing them to allow their sheep to run more at large and consequently suffer more from the vicissitudes of even an open winter.

On the Atlantic coast as far south as Virginia, in no State except Delaware, does the loss reach as much as 3 per cent., and in no State from there south and west as far as Ohio does it fall below it. As

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usual, dogs are the greatest cause of loss, and especially is this true in the South, where the predatory canine of the freedman is charged with being the greatest check upon the industry. It is doubtless not an exaggeration to declare that worthless curs cause an annual loss of at least 500,000 sheep, and are in many sections the cause of more damage and discouragement than all other local causes combined. In the Ohio and Upper Mississippi Valleys the loss ranges from 1½ to 4 per cent. The serious losses of the year occurred in the pastoral districts of the Rocky Mountain region and on the north Pacific coast, where they were the worst reported for many years. The winter has been one of remarkable severity, accompanied by heavy snow-storms, and whole flocks were wiped out in some cases. Sheep are a timid, helpless animal, crowding together and smothering each other when overtaken by a storm, and quickly succumbing when their grazing fields are covered with snow. At such times they need to be carefully looked after and protected or the percentage of loss will be very heavy. It is possible that the magnitude of the present loss in the mountain districts has led our correspondents to overstate the damage, but all reports agree in making it practically unprecedented. The heaviest losses are in Nevada, where the consolidated returns make it 34 per cent. of the whole number; in Oregon, 23; Washington, 21.8; Montana, 19.7; California, 10.4, and Utah, 9.9.

The average loss in the whole country from winter exposure is 4.9 per cent., and from all causes combined 7.3, or an aggregate of 3,221,064, animals. In 1889 the percentage of total loss was but little more than one-half as great, or 3.8 per cent. The following statement shows the number in each State in January, the percentage of loss from exposure and from all causes, and the aggregate loss, by States:

States and Territories.	Number.	Losses.		
		Winter exposure.	All causes.	
		Per ct.	*Per ct.*	*No.*
Maine	542,248	.3	2.5	13,556
New Hampshire	192,824	.4	2.7	5,206
Vermont	362,112	.3	2.6	9,415
Massachusetts	56,530	.3	2.3	1,300
Rhode Island	20,231	.3	2.7	546
Connecticut	46,759	.4	2.3	1,075
New York	1,548,426	.5	2.4	37,162
New Jersey	103,170	.6	2.5	2,579
Pennsylvania	945,002	.4	2.1	19,845
Delaware	22,294	.8	3.3	736
Maryland	153,763	.6	3.0	4,613
Virginia	444,563	.7	2.8	12,448
North Carolina	414,819	1.2	4.0	16,593
South Carolina	102,031	.6	3.7	3,775
Georgia	411,846	1.5	4.5	18,533
Florida	110,351	2.2	8.7	9,601
Alabama	286,238	1.8	4.7	13,453
Mississippi	240,148	2.0	6.5	15,610
Louisiana	115,042	1.0	6.7	7,710
Texas	4,752,640	1.8	4.0	190,106
Arkansas	269,484	2.1	4.6	12,396
Tennessee	511,118	2.0	5.0	25,556
West Virginia	508,654	2.4	4.7	23,907
Kentucky	805,978	1.3	4.3	34,657

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States and Territories.	Number.	Losses.		
		Winter exposure.	All causes.	
		Per ct.	*Per ct.*	*No.*
Ohio	3,943,589	1.8	3.5	138,026
Michigan	2,240,841	1.1	3.0	67,225
Indiana	1,278,000	1.0	4.0	51,120
Illinois	688,387	1.0	3.2	22,028
Wisconsin	809,009	.5	2.5	20,225
Minnesota	327,375	.4	3.0	9,821
Iowa	475,816	1.0	2.2	10,468
Missouri	1,198,200	1.0	2.5	29,955
Kansas	438,313	1.0	2.7	11,834
Nebraska	239,400	1.2	3.0	7,182
California	4,035,120	7.0	10.4	419,652
Oregon	2,929,830	20.0	23.0	673,861
Nevada	700,986	27.5	34.0	238,335
Colorado	1,783,891	2.8	4.2	74,932
Arizona	698,404	1.2	3.5	24,444
Dakota	266,329	.5	1.5	3,995
Idaho	487,357	17.0	18.1	88,212
Montana	1,989,815	17.5	19.7	391,909
New Mexico	3,092,736	2.3	5.0	154,637
Utah	2,055,900	7.7	9.9	203,394
Washington	673,060	18.4	21.8	146,727
Wyoming	1,017,373	2.0	4.0	40,695
Total	44,336,072	5.1	7.5	3,309,276

Sheep in the different States are thus reported upon by the State agents:

NEW YORK.—There is a general awaken ing in regard to mutton sheep, and an extended demand for the Devons and the Dorset-horned to cross upon natives and merinos for mutton purposes. The wet weather has been injurious to sheep exposed, but where well sheltered they have done unusually well. There has been no prevailing disease and the greatest loss has been by dogs.

PENNSYLVANIA.—Sheep have been somewhat reduced by dogs and excessive rains during the winter, but their general condition is good. In consequence of the low prices of grain there appears to be an increased interest in sheep-raising.

VIRGINIA.—Condition excellent; have suffered some from distemper and foot-rot, but the main loss has been by dogs.

NORTH CAROLINA.—The mildness of the winter was favorable, and sheep are in fine condition. There was more suffering from dogs than disease. Improved breeds are receiving much attention in some sections.

GEORGIA.—The mild winter has been favorable for sheep, especially so as the larger portion of them are subject to no shelter. No unusual disease is prevalent; foot-rot most prevalent.

MISSISSIPPI.—Owing to the mild winter and increased care and attention, sheep are in good condition, with no loss from exposure and very little from disease.

LOUISIANA.—The general condition of sheep is excellent. The chief mortality was caused by the severe cold weather during the early part of March, just at the lambing season when they were compelled to subsist almost entirely upon the frost-bitten grass. Farmers who were possessed of a supply of cotton-seed report excellent results, especially when the seed was sprinkled with salt, thereby preventing any ill effects.

TEXAS.—Sheep are in excellent health, with no prevailing disease. "Scab" and "foot-rot" have appeared, but not extensively.

ARKANSAS.—The general health and physical condition of sheep is good, and no unusual diseases have prevailed. Very little loss has occurred from disease or exposure.

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KENTUCKY.—Sheep are in a healthy condition, with no unusual diseases prevailing. Foot-rot and scab have been most prevalent.

OHIO.—The winter has not been one of the best for sheep. Scab, grub in the head, foot-rot, paper-skin, and other casualties, more or less the result of the wet and changeable weather, supplemented by the ravages of dogs, have conspired to deplete this class of stock. No unusual disease has prevailed. Prices are more satisfactory, and their general condition is good.

INDIANA.—Owing to the mild, open winter, sheep came through in fine condition No epidemics prevail, and the greatest loss has been from dogs.

ILLINOIS.—Sheep have wintered well. The loss from disease has been small. Some have died from old age, but dogs have done more damage than all other causes combined. More attention is being given to the mutton breeds of sheep.

WISCONSIN.—Sheep are in excellent condition. None have died from exposure and only the usual diseases have appeared.

MINNESOTA.—Owing to the mild winter no sheep have died from exposure and no unusual disease has prevailed. The loss from disease and all other causes during the year has been very light.

IOWA.—The sheep industry is rapidly developing. Mutton breeds are supplanting the older established merinos. Flocks have wintered well, with no prevailing diseases. Dogs and wolves have killed more than all diseases combined.

MISSOURI.—The mild and comparatively moist winter has not been favorable for sheep. Scab, foot-rot, liver fluke, and grub have prevailed, while the dogs have continued their work of destruction. Sheep have been decreasing in numbers for a series of years until now they are scarce and, notwithstanding the menacing dogs, are in demand.

KANSAS.—The comparative condition of sheep is a full average, with no prevailing diseases. It is a question as to the comparative profits to be realized from long and short wool breeds, with a leaning toward the latter.

CALIFORNIA—Owing to the rain and snow the condition of sheep in many sections is unfavorable. The young lambs have suffered most and a great many have died. No unusual diseases have prevailed.

SOUTH DAKOTA.—Although the number of sheep is not large there is a growing interest in sheep husbandry and the flocks are increasing both in numbers and size. The tendency is towards the long-wooled mutton breeds. Sheep are in splendid condition and are remarkably free from disease.

SWINE.

CONDITION.

This class of animals are reported in medium condition, highest in New England and the Middle States and lowest along the Gulf coast. The mildness of the winter and abundance of corn and other feeding material have contributed to make condition slightly better than the average for a series of years, the figures of condition being 95.6, the range being from 90 to 99 in different States.

DISEASES.

Swine are subject to more disorders than other animals, but the present returns show probably less disease than usual. Under the indefi-

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nite term of cholera fatal disease is reported from many districts, but in only a few isolated counties has the loss been heavy or in excess of that usually suffered.

Many correspondents call attention to the fact that the disease during the past year has appeared in a milder form than usual, and in more circumscribed limits. As a whole, swine of the United States are undoubtedly healthier than those of any other country, having a greater variety of food, and more than ordinary care and attention.

LOSSES.

The percentage of loss was somewhat larger than last year, when fatalities were very small, but materially smaller than in any other season since 1884. The average for the whole country is 7.6 per cent., or an aggregate loss of nearly 4,000,000 animals. It is heaviest in the South, where swine run more at large, approximating 10 per cent., and lightest in New England, where it averages less than 2 per cent.

The following table gives the losses of swine, by States:

Losses of swine.

States and Territories.	Number.	Losses.		States and Territories.	Number.	Losses.	
		Per ct.	Number.			Per ct.	Number.
Maine	79,043	2.2	1,739	Ohio	2,611,014	5.4	140,995
New Hampshire	52,713	2.0	1,054	Michigan	978,755	4.0	39,150
Vermont	77,888	2.2	1,714	Indiana	2,845,302	9.3	264,613
Massachusetts	68,580	2.0	1,372	Illinois	5,433,250	7.0	380,328
Rhode Island	13,796	1.8	248	Wisconsin	1,087,902	3.2	34,813
Connecticut	55,598	1.8	1,001	Minnesota	527,526	3.0	15,826
New York	686,321	2.5	17,158	Iowa	5,805,000	7.5	435,375
New Jersey	204,669	2.0	4,093	Missouri	5,096,000	8.0	407,680
Pennsylvania	1,193,415	3.0	35,802	Kansas	2,734,195	5.8	158,583
Delaware	51,185	7.0	3,583	Nebraska	2,309,779	8.5	196,331
Maryland	343,079	6.4	21,957	California	647,000	5.9	38,173
Virginia	1,009,659	7.5	75,724	Oregon	270,164	6.7	18,101
North Carolina	1,291,893	10.0	129,189	Nevada	19,232	3.5	673
South Carolina	670,652	8.5	57,005	Colorado	29,508	5.0	1,475
Georgia	1,627,008	9.0	146,431	Arizona	20,140	6.0	1,208
Florida	358,021	10.7	38,308	Dakota:	476,569	7.5	35,743
Alabama	1,530,001	10.3	157,590	Idaho	31,000	6.0	1,860
Mississippi	1,443,813	11.5	166,038	Montana	29,254	6.0	1,755
Louisiana	706,947	9.3	65,746	New Mexico	22,593	5.0	1,130
Texas	2,321,246	7.5	174,093	Utah	47,641	5.4	2,573
Arkansas	1,663,275	10.6	176,307	Washington	143,411	5.8	8,318
Tennessee	2,242,215	9.3	208,526	Wyoming	5,200	5.0	260
West Virginia	486,226	8.6	41,815				
Kentucky	2,255,102	9.5	214,235	Total	51,602,780	7.6	3,925,691

The State agents report as follows upon swine:

NEW YORK.—Swine are exceedingly healthy, and the number and kinds of diseases are very limited.

PENNSYLVANIA.—Cholera, paralysis, and mortality among young pigs have reduced swine a little below the average, but their general condition is good. Increased interest in this industry is awakened on account of the low price of grain.

VIRGINIA.—Hogs generally are reported free from any unusual disease. Only fourteen counties report unusual ravages from cholera.

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NORTH CAROLINA.—The warm weather or some other cause has increased cholera. In some parts of the State increased attention is manifest in the improvement of this class of stock.

GEORGIA.—Owing to the fact that a large portion of the hogs are exposed, without shelter, to the weather, the mild winter has been exceptionally favorable for them, and they are in good condition. No unusual diseases are prevailing, although cholera is reported in many counties.

MISSISSIPPI.—The condition of swine is only fair. A large number have died from cholera and neglect.

LOUISIANA.—Cholera has prevailed, more or less, in twenty-seven counties during the past year. The loss has ranged from ½ to 40 per cent. Thirty-two counties report no loss.

TEXAS.—The comparative condition of swine is good. Cholera has caused considerable damage in some instances, but no unusual disease has prevailed.

ARKANSAS.—Swine are in a healthy condition. No disease of an epidemic nature has prevailed except cholera in one county.

KENTUCKY.—The comparative condition of swine is fairly good. The loss during the year is not quite 10 per cent. Cholera has been the most prevalent disease.

OHIO.—Owing to the mild winter, plenty of food, and good care, the present condition of swine is most favorable. Cholera appeared in a good many counties last summer and fall, and in some caused great loss.

INDIANA.—Swine are in good condition. Cholera has been the most unusually prevalent disease.

ILLINOIS.—The condition of swine is nearly up to an average for the season. The loss has been principally from hog cholera (so called), which has prevailed to a greater or less extent in more than half of the counties of the State. In some localities it has been sweeping, while in others the loss has been light.

WISCONSIN.—Swine are unusually free from disease and are in good condition. Cholera has appeared in some localities, but not seriously.

MINNESOTA.—Hogs are in good condition, with no unusual disease prevailing. The loss from all causes during the past year was not more than 3 per cent.

IOWA.—Hogs have wintered well, with no epidemic diseases prevailing. Cholera visited a few localities, but in a mild form.

MISSOURI.—Swine are in a fairly good condition, but cholora and those diseases so called have destroyed vast numbers.

KANSAS.—Cholera has prevailed among swine to some extent; in fact, it is the only disease reported. At present they are in fine condition.

CALIFORNIA.—The condition of swine is good throughout the State. A few cases of hog cholera have appeared, but no unusual disease has prevailed.

SOUTH DAKOTA.—The number of swine is increasing. They are in good condition and unusually free from all disease.

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Reported condition of the different classes of farm animals, April 1, 1890.

States and Territories.	Horses.	Cattle.	Sheep.	Swine.
Maine	99	98	99	99
New Hampshire	99	95	98	99
Vermont	98	97	94	98
Massachusetts	98	97	93	99
Rhode Island	99	98	98	99
Connecticut	99	98	98	99
New York	98	97	98	99
New Jersey	99	98	98	99
Pennsylvania	98	97	98	99
Delaware	98	96	97	98
Maryland	98	97	97	97
Virginia	99	97	98	95
North Carolina	98	97	96	90
South Carolina	98	98	95	95
Georgia	98	97	95	94
Florida	98	90	95	93
Alabama	99	96	97	96
Mississippi	99	93	97	93
Louisiana	98	95	98	91
Texas	97	92	95	95
Arkansas	99	97	95	96
Tennessee	98	96	96	95
West Virginia	99	97	97	96
Kentucky	98	97	98	93
Ohio	98	97	97	95
Michigan	98	96	95	93
Indiana	98	96	97	94
Illinois	97	97	97	97
Wisconsin	98	97	98	97
Minnesota	99	99	98	98
Iowa	99	98	98	97
Missouri	99	98	97	96
Kansas	98	98	98	98
Nebraska	98	97	97	94
California	98	94	96	97
Oregon	97	86	83	96
Nevada	90	80	78	94
Colorado	97	92	90	95
Arizona	95	90	90	95
Dakota	97	97	97	97
Idaho	82	70	85	93
Montana	84	72	87	95
New Mexico	95	81	95	96
Utah	92	85	91	95
Washington	90	80	81	93
Wyoming	92	87	90	95
Average	97.4	94.1	93.7	95.6

EUROPEAN CROP REPORT FOR APRIL.

Following the severe frost of late February and early March, the weather has greatly improved the prospects, so that the damages to soil and vegetation have been repaired. A few discordant notes are heard where heavy rains, which have not been general, have caused floods, especially in Kent and Essex. Wheat is looking exceedingly well, and the other crops are not subjects of complaint.

After many years of agitation the Government has introduced a bill to deal more satisfactorily with pleuro-pneumonia and the compensation to owners whose cattle may be slaughtered in consequence of the disease. Under the contagious diseases (animals) act of 1878 cattle affected with pleuro-pneumonia were required to be killed within two days after the discovery of the disease by the local authorities, and power was also given to slaughter any cattle that might have been in

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contact with such diseased animals should it be deemed necessary. Compensation was to be paid out of the local rates: (1) Where an animal was diseased, the compensation was three quarters of its previous value, but not to exceed £30 in any case. (2) For animals slaughtered on account of supposed infection compensation was given for full value, but not to exceed £40. The principle of the present bill, while maintaining the above rates of compensation, is to transfer the power of slaughter and the liability for compensation from the local authorities to the board of agriculture, thus making the question of pleuro-pneumonia a national rather than a local matter. A sum not exceeding £140,000 in any one year is asked to defray the costs of the execution of the act in Great Britain and £20,000 in Ireland.

FRANCE.

The cold of early March did not produce any alarm in France, as in some countries, and for more than three weeks the press have been filled with notes of satisfaction. The weather on the whole could scarcely have been more favorable, and all crops are apparently in excellent condition. Some increase is noticed in the extension of the barley acreage, the profits to farmers last year having been found to have been more remunerative than from wheat. The area of colza is also being increased.

AUSTRIA-HUNGARY.

The earlier part of the month was marked by low temperature and widely extended snow-storms, which naturally at the time caused some anxiety, as the plants were rapidly losing color. The last two weeks have brought warm and reviving weather, which has much improved the prospects. Wheat appears to have passed the winter in the best condition; rye and barley have a poorer aspect, and rape-seed has suffered considerably.

GERMANY.

About the 12th of the month the wintry weather appears to have broken in Germany, and settled spring temperature seemed to have set in. The ice in the rivers and canals quickly melted. Reports from all parts as to the damages supposed to have occurred agree that they are almost nil, and that the appearances of the fields are in a very satisfactory condition.

RUSSIA.

A large number of reports have been received during the month dealing with the condition of the winter wheat, and with one or two exceptions as to particular localities there is an agreement that the situation at present leaves little to be desired. Some fears were expressed about the middle of the month that in the south and southwestern districts there was an insufficiency of moisture, but later advices as to weather have dispelled the apprehension. The spring is everywhere expected to be early, the Azof ports having now been opened for ten days.

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ITALY.

The minister of agriculture reports that the cereal crops have in general a satisfactory appearance, and that the cold and snowy weather which has caused the suspension of agricultural work in some districts has on the whole occasioned but trifling damage.

Italian imports and exports in 1889 *and* 1888.

	1889.		1888.	
	Imports.	Exports.	Imports.	Exports.
	Tons.	*Tons.*	*Tons.*	*Tons.*
Wheat	872, 743	570	669, 789	2, 635
Rye	158, 356	8, 136	2, 168	23, 704
Barley	14, 182	1, 324	10, 127	2, 452
Oats	19, 164	80	17, 743	403
Flour	1, 043	335	2, 676	1, 004

The imports of wheat were from the following countries:

	1889.	1888.		1889.	1888.
	Tons.	*Tons.*		*Tons.*	*Tons.*
Russia	632, 018	510, 771	Africa	11, 386	3, 371
Roumania	101, 020	30, 856	Austria-Hungary	9, 590	9, 446
Turkey	70, 1 0	24, 232	America	.....	7, 939
Asia	32, 376	69, 827	Sundries	14, 173	12, 347
			Total	872, 743	669, 789

SWITZERLAND.

Trade with Switzerland last year was very important, as this country, with its naturally large consumption of both agricultural and manufactured products, offers a free outlet for a considerable portion of Hungarian cereal produce. Unfortunately last season's defective harvest in Hungary has led to a material limitation of the consignments of wheat and flour to that republic.

The imports of the last two years compare as follows:

	1889.	1888.
Wheat quarters	642, 800	776, 200
Barley do	51, 000	65, 600
Maize do	65, 700	29, 600
Oats do	186, 400	176, 300
Flour cwts	191, 500	298, 600

SPAIN.

Spanish agricultural notes show great diversity. Heavy rains have succeeded the intense cold of the early part of the month, and the prospects are only for a middling yield.

ROUMANIA.

The weather has been gradually assuming a seasonable character, and the young crops appear strong and well developed. The excellent

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quality of last year's maize has led to heavy buying, and the greater part of the crop has already been exported.

INDIA.

From Punjab and the northwesterr provinces the latest reports are very unfavorable, and it is now hardly expected that even the short to their crop of last year will be reached this season.

E. J. MOFFATT.

OFFICIAL REPORTS ON FOREIGN CROPS.

AUSTRIA.

The Statistische Jahrbücher of the Austrian ministry of agriculture for 1887 and 1888 contains the final official figures on the crops of those years. These are given below for the principal crops, reduced to their equivalents in our own denominations.

Crops.	1887.		1888.	
	Acres.	*Bushels.*	*Acres.*	*Bushels.*
Wheat	2,876,410	52,351,733	2,929,973	51,843,452
Spelt	17,181	245,302	17,045	226,047
Rye	4,965,450	91,031,114	4,975,013	81,570,776
Barley	2,798,847	58,362,807	2,795,783	57,346,301
Oats	4,632,559	105,084,060	4,630,829	105,216,231
Maize as first or sole crop	872,814	15,951,829	877,378	16,585,613
Maize as second crop	19,148		19,857	
Buckwheat as first or sole crop	244,980	4,853,657	250,414	6,146,366
Buckwheat as second crop	259,008		254,197	
Millet as first or sole crop	165,310	2,360,914	165,809	2,601,148
Millet as second crop	4,732		1,804	
Legumes	662,058	8,008,929	*a*651,000	7,941,890
Mixed grain	50,211	1,101,631	51,980	1,180,741
Potatoes	2,758,765	337,589,443	2,735,207	298,307,365
Clover seed as first or sole crop	2,606	506,707	2,629	491,049
Clover seed as second crop	*b*185,281		170,709	
		Tons of 2,240 lbs		*Tons of 2,240 lbs.*
Straw	.....	13,525,826	.....	12,731,074
Sugar beets	380,581	2,417,003	479,937	3,946,072
Forage roots as first or sole crop	243,917	1,870,990	243,823	2,347,238
Forage roots as second crop	(*c*)		156,696	
Cabbage as first or sole crop	179,733	609,774	183,778	835,125
Cabbage as second crop	1,581		1,581	
Pumpkins	.....	173,362	9,835	154,515
Mixed fodder as first or sole crop	396,235	*d*379,388	414,505	*d*409,261
Mixed fodder as second crop	22,069		19,469	
Clover hay as first or sole crop	2,005,128	2,421,961	2,051,488	2,503,390
Clover hay as second crop	4,072		3,959	
Hay	.....	6,916,312	.....	7,523,904
Meadows proper	7,194,289	.....	7,179,238	.....
Mountain meadows	331,250	.....	331,250	.....
Core fruit	.....	192,979	.....	642,996
Stone fruit	.....	167,293	.....	306,210
Nuts and almonds	.....	1,459	.....	10,052
		Pounds.		*Pounds.*
Flax and its product in fiber	215,466	105,144,429	224,705	80,931,527
Hemp and its product in fiber	103,211	42,695,606	104,091	44,270,352
Rape and rape seed	94,182	92,187,554	96,544	94,123,192
Hops *e*	36,091	13,806,969	35,701	12,771,689
Tobacco	4,638	6,530,466	5,219	6,736,596
Olive trees and olive-oil	115,702	17,587,197	115,712	32,693,557
		Gallons.		*Gallons.*
Vines and product in wine	575,162	124,210,964	575,308	109,756,295
Truck farms	335,011	.....	334,890	.....
Fallows	2,193,875	.....	1,982,565	.....

a Besides 168 hectares (415 acres) as second crop, and 1,175 hectares (2,903 acres) grown with other crops.
b Exclusive of South Tyrol, which in 1888 had 98 hectares, or 242 acres.
c Incomplete returns.
d Vetches, mixed fodder, and green maize.
e Cultivated chiefly in gardens.

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PRELIMINARY ESTIMATE FOR 1889.

The Austrian ministry of agriculture has issued a preliminary estimate of the crops of the principal cereals and wine for 1889; but this estimate is far from being complete, as the estimate for cereals does not include returns from Upper or Lower Tyrol, Voralberg, East Galicia, or Dalmatia, while the estimate on wine omits not only these five provinces but also Bohemia and Küstenland, or Coastland, which last comprises Görz and Gradisca, Istria, and Trieste. The official figures, with those for the corresponding provinces for 1888, and those for the whole of Austria for the year last mentioned, are given below with their equivalents in our own denominations:

Crops.	Quantity produced in provinces for which returns are in for 1889.				Total product for Austria in 1888.	
	1889.		1888.			
	Hectoliters.	*Bushels.*	*Hectoliters.*	*Bushels.*	*Hectoliters.*	*Bushels.*
Wheat	10,895,000	30,915,000	13,452,000	38,170,000	18,270,810	51,843,452
Rye	21,133,000	59,965,000	23,534,000	66,778,000	28,747,410	81,570,776
Barley	13,785,000	39,115,000	16,994,000	48,220,000	20,210,150	57,346,301
Oats	24,568,000	69,712,000	30,881,000	87,633,000	37,080,610	105,216,231
Maize	3,362,000	9,540,000	3,569,000	10,127,000	5,845,150	16,585,613
		Gallons.		*Gallons.*		*Gallons.*
Wine	2,329,000	61,525,000	1,512,000	39,943,000	4,154,760	109,756,295

HUNGARY.

The final official figures on the principal crops of Hungary for 1889 are not yet out. Those for 1888 are found in the Statistisches Jahrbuch für Ungarn for that year, and the same document contains a summary statement for a number of anterior years. The figures for 1888 in comparison with those for 1887, reduced to their equivalent in our own denominations, are presented below:

Statistics of the principal crops for the years 1887 *and* 1888.

Crops.	1887.		1888.	
	Acres.	*Bushels.*	*Acres.*	*Bushels.*
Winter wheat	6,486,664	140,600,880	6,461,853	130,094,582
Spring wheat	374,268	5,305,634	382,916	5,765,204
Total wheat	6,860,932	145,906,514	6,844,769	135,859,786
Spelt	8,285	156,429	6,852	127,502
Winter rye	2,689,641	49,918,844	2,618,758	40,719,671
Spring rye	84,081	1,376,954	113,550	1,475,724
Total rye	2,773,722	51,295,798	2,732,308	42,195,395
Winter barley	179,775	4,617,027	221,735	4,763,703
Spring barley	2,301,353	51,099,320	2,203,242	40,348,870
Total barley	2,481,128	55,716,347	2,424,977	45,112,573
Mixed grain	456,564	9,038,414	436,272	7,828,833
Oats	2,583,660	61,495,512	2,582,496	56,514,385
Maize	4,517,275	73,714,397	4,608,363	95,376,751

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Statistics of the principal crops for the years 1887 *and* 1888—Continued.

Crops.	1887.		1888.	
	Acres.	*Bushels.*	*Acres.*	*Bushels.*
Buckwheat	36,385	550,339	30,203	423,318
Millet	79,191	994,243	83,317	1,483,573
Peas, beans, and lentils	103,184	1,176,771	109,759	1,493,161
Vetch seed	165,157	2,353,451	173,415	2,830,131
Potatoes	1,019,984	92,509,509	1,085,866	106,543,474
Winter rape	90,290	1,200,115	110,716	2,003,389
Spring rape	7,467	88,975	9,872	157,433
Total rape	97,757	1,289,090	120,588	2,160,822
Flax seed	.....	248,761	.....	301,277
Hemp seed	.....	1,901,763	.....	2,365,326
		Pounds.		*Pounds.*
Tobacco	138,005	124,940,034	123,355	126,458,281
Flax fiber	27,317	10,101,257	28,459	12,078,875
Hemp fiber	175,547	107,571,693	178,777	109,605,878
		Tons of 2,240 *lbs.*		*Tons of* 2,240 *lbs.*
Sugar beets	83,547	491,753	104,795	792,970
Forage roots	254,016	2,008,913	262,697	2,388,665
Lucerne clover and sainfoin	602,845	822,804	627,310	933,554
Vetch mixture, millet grass, etc	559,630	600,111	581,053	701,609
Hay	6,365,874	5,746,412	6,500,193	5,844,272
Fallows	4,872,530	.....	4,992,497	.....

GERMANY.

The last official statement of the crops of Germany issued up to this date is that for the year 1888, which appears in one of the numbers of the *Monatshefte zur statistik des Deutschen Reichs.* The figures refer to field crops, the produce of gardens not being included.

The areas for Bavaria and for a number of the small German states included in the official totals are stated to be those ascertained through an inquiry on the employment of the soil made in 1883; but for all the other divisions of the empire, embracing together nearly four-fifths of its total area, the actual variations in the area from year to year are taken into account.

In the case of the cereals and legumes, the areas given are those from which grain and leguminous seeds were harvested. The areas for straw would be somewhat larger, as they would include the areas from which the produce was cut green for fodder, the latter, reduced to its estimated dry weight, being included with straw in the column showing quantities produced. The figures showing the quantity of hay, etc., also include, at their estimated dry weight, the clover and grasses cut green and the products of pastures. They also include after-crops. The following table contains the official figures on area and product, with their equivalents in our own denominations, and the rate of yield obtained as stated in a foot-note below:

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Area, product, and rate of yield of the principal field crops in 1888.

Crops.	Area.		Product.		Product per acre.a
	Hectares.	*Acres.*	*Metric tons.*	*Bushels.b*	*Bushels.b*
Wheat	1,933,316.8	4,777,275	2,530,841.5	92,991,563	19.5
Spelt	365,506.2	903,166	336,016.5	12,346,366	13.7
Einkorne	4,879.7	12,058	3,866.4	142,064	11.8
Rye	5,814,253.2	14,367,040	5,522,740 3	217,418,451	15.1
Barley	1,723,115.0	4,257,817	2,260,589.8	103,827,006	24.4
Oats	3,832,488.3	9,470,079	4,647,582.6	320,189,394	33.7
Buckwheat	208,975.6	516,379	111,965.9	4,936,800	9.6
Peas	400,259.8	988,993	299,932.9	11,020,535	11.1
Field beans	150,063.8	370,808	181,869.4	6,748,626	18.2
Clover seed	73,726.2	182,177	10,995.6	404,015	2.2
Potatoes	2,920,329.7	7,216,135	d21,910,996.2	805,083,037	111.6
				Tons of 2,240 *lbs.*	*Tons of* 2,240 *lbs.*
Vetches (seed)	162,196.9	400,789	109,731.0	107,997	.27
Lupins (seed)	157,459.5	389,082	98,894.2	97,331	.25
Straw, etc.:					
Wheat straw			3,901,025.2	3,839,375	
Spelt straw			616,711.2	606,965	
Einkorn straw			7,648.4	7,528	
Rye straw			9,564,959.8	9,413,799	
Barley straw			2,574,195.6	2,533,514	
Oat straw			6,132,054.7	6,035,146	.64
Buckwheat straw			152,975.1	150,558	.30
Peas straw			524,120.1	515,837	.52
Field beans straw			280,890.7	276,452	.74
Vetches straw			278,255.0	273,858	.51
Lupins straw			200,677.7	197,506	.48
Beets as forage roots	389,023.9	961,278	6,165,059.7	6,067,630	6.31
Other field roots e	454,447.9	1,122,941	2,918,256.6	2,872,138	2.56
Oil seeds f	123,611.0	305,443	133,397.8	131,290	.43
Hops	46,447.6	114,772	g 22,339.0	21,986	.19
Clover (hay)	1,809,876.6	4,472,205	4,981,604.7	4,902,878	1.10
Lucern	195,928.5	484,139	837,169.9	823,940	1.70
Esparcet	108,381.2	267,810	315,775.5	310,785	1.16
Other fodder plants h	444,178.4	1,097,565	934,601.9	919,832	.84
Hay	5,902,692.8	14,585,554	15,469,930.5	15,225,450	1.04
			Hectoliters.	*Gallons.*	
Wine	120,588.1	297,973	2,859,998.0	475,552,567	253.6

a The areas from which the quantities of straw harvested were obtained not being exactly known, the product of straw per acre is obtained from the German official figures showing the product per hectare, but in all cases where the quantity of the product and the area from which it was obtained are both known, the product per acre is obtained by dividing the total quantity of the product by the total number of acres. The results are usually the same as those that would be obtained by the other method, but in a few instances they are somewhat more exact.

b The quantities are reduced to pounds on the basis of 2,204.6 pounds to the metric ton, pounds being reduced to bushels at the following rates per bushel: Wheat, spelt, einkorn (c), peas, beans, clover-seed, and potatoes, 60 pounds; rye, 56 pounds; buckwheat, 50 pounds; barley, 48 pounds; oats, 32 pounds.

c A variety of spelt.

d Including diseased potatoes as well as sound ones.

e Including carrots, turnips, and cabbage-turnips.

f Rape, etc.

g This is equivalent to 49,248,559 pounds.

h Serradella, spurry, etc.

i The hectoliter equals 26.417 gallons.

GREAT BRITAIN AND IRELAND, 1889.

In the following table the returns for Great Britain are taken from the Agricultural Produce Statistics of Great Britain, except for those crops whose product is not given. The areas under these are taken from the "Agricultural Returns of Great Britain," from which are also taken the areas under clover, sainfoin, and grasses, not for hay, as well as under permanent pasture in Ireland. All the other figures for Ireland are from the "Agricultural Statistics," prepared by the Register-General of Ireland. In the returns for Great Britain the areas for Isle of Man and the Channel Islands are not included, no produce returns being made for those islands. Imperial bushels are reduced to Win-

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chester bushels on the basis of 1.03152 of the latter to 1 of the former, and hundred-weights of 112 pounds, or tons of 2,240 pounds, on the basis of 60 pounds of wheat, peas, beans, or potatoes, 48 pounds of barley, and 32 pounds of oats to the Winchester bushel:

Crops.	Areas.		
	Great Britain.	Ireland.	Total.
	Acres.	*Acres.*	*Acres.*
Wheat	2, 449, 354	89, 745	2, 539, 099
Rye	69, 438	15, 786	85, 224
Barley and bere	2, 121, 530	186, 254	2, 307, 784
Oats	2, 888, 704	1, 238, 952	4, 127, 656
Beans	321, 092	3, 688	324, 780
Peas	224, 764	668	225, 432
Potatoes	579, 222	787, 234	1, 366, 456
Turnips *a*	1, 920, 641	297, 913	2, 218, 554
Marigold *b*	326, 128	44, 021	370, 149
Carrots *b*	15, 736	3, 098	18, 834
Cabbage, kohl-rabi, and rape *c*	147, 091	49, 461	196, 552
Vetches, and other green crops *d*	310, 829	*e* 38, 022	348, 851
Clover, sainfoin, and grasses under rotation—not for hay	2, 400, 564	591, 639	2, 992, 223
Clover, for hay and hay produced	2, 476, 734	670, 242	3, 146, 976
Permanent pasture, or grass not broken up in rotation—not for hay	10, 878, 377	9, 403, 126	*f* 20, 281, 503
Permanent pasture, for hay and hay produced	4, 987, 486	1, 517, 280	*f* 6, 504, 766
Flax	2, 375	113, 652	116, 027
Hops	57, 724	.....	57, 724
Bare fallow, or uncropped arable land	513, 320	17, 103	530, 423

Crops.	Produce.				
	Great Britain.		Ireland.		Total.
	Imp. bush.	*Win. bush.*	*Ovts.*	*Win. bush.*	*Win. bush.*
Wheat	73, 202, 773	75, 510, 124	1, 436, 168	2, 680, 838	78, 190, 962
Rye	.....	.....	203, 435	406, 870	.....
Barley and bere	67, 426, 754	69, 552, 045	3, 248, 661	7, 580, 209	77, 132, 254
Oats	113, 441, 397	117, 017, 070	17, 632, 645	61, 714, 258	178, 731, 328
Beans	9, 249, 371	9, 540, 911	67, 270	125, 571	9, 666, 482
Peas	5, 906, 101	6, 092, 261	8, 030	15, 006	6, 107, 267
	Tons.		*Tons.*		
Potatoes	3, 587, 765	133, 943, 227	2, 847, 622	106, 311, 221	240, 254, 448
					Tons.
Turnips *a*	28, 097, 263	.....	3, 909, 822	.....	32, 007, 085
Marigold *b*	6, 118, 639	.....	621, 639	.....	6, 740, 278
Carrots *b*	.....	.....	26, 916	.....	.....
Cabbage, kohl-rabi and rape *c*	.....	.....	487, 042	.....	.....
Clover for hay and hay produced	4, 146, 999	.....	1, 478, 344	.....	5, 625, 343
Permanent pasture for hay, and hay produced	7, 283, 879	.....	3, 375, 657	.....	10, 659, 536
			Stones of 14 lbs.	*Pounds.*	
Flax	.....	(*g*)	3, 098, 521	43, 379, 294	(*g*)
	Ovts.	*Pounds.*			*Pounds.*
Hops	497, 811	55, 754, 832	.....	.....	55, 754, 832

a The figures for Great Britain include Swedes.
b The figures for Ireland include beet root with mangold (or mangel wurzel), and parsnips with carrots.
c The figures for Ireland include only cabbage and rape.
d Except clover and grass which are separately shown.
e The area under vetches in Ireland was 6,014 acres, and the product 66,396 tons. For other green crops the product is not stated for either Great Britain or Ireland.
f Exclusive of heath and mountain land.
g Quantities produced not given for Great Britain.

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The area under gooseberries, strawberries, and other small fruit, including what is grown between trees in orchards and also in market gardens is stated for Great Britain at 41,933 acres. For Ireland no figures on small fruits are given.

PRINCIPAL FOOD CROPS OF RUSSIA—1889.

A recent publication of the Russian Government contains statistics of the product of cereals, peas, and potatoes in European Russia, exclusive of Finland, for 1889, and along with the product for that year is presented its excess or deficiency as compared with that for 1888. For European Russia, exclusive of Finland and Poland, the product for 1889 is compared in the same manner, both with the product for 1888 and with the average product for the five years 1883–1887. Reducing the official figures to our own denominations on the basis of 5.956 bushels to the Russian chetvert, we have the following table:

Products.	European Russia.							
	Exclusive of Finland.[a]			Exclusive of Poland and Finland.[b]				
	Crop of 1889.	Excess or deficiency as compared with crop of 1888.	Ratio of crop of 1889 to that of 1888.	Crop of 1889.	Excess or deficiency as compared with—		Ratio of crop of 1889 to—	
					Crop of 1888.	Average crop for 1883–1887.	Crop of 1888.	Average crop for 1883–1887.
	Bushels.	*Bushels.*	*P. ct.*	*Bushels.*	*Bushels.*	*Bushels.*	*P. ct.*	*P. ct.*
Winter wheat	51,630,182	— 73,114,069	41.4	41,742,626	— 68,886,500	— 28,500,651	37.7	59.4
Spring wheat	136,905,807	— 48,356,764	73.9	136,740,826	— 48,267,424	— 17,741,137	73.9	88.5
Total wheat	188,535,989	—121,470,833	60.8	178,483,452	—117,153,924	— 46,241,788	60.4	79.4
Spelt	10,250,276	+ 1,150,699	112.6	10,250,276	+ 1,150,699	— 466,355	112.6	95.6
Rye	589,016,613	—165,486,864	78.1	551,545,850	—155,099,600	—117,342,730	78.1	82.5
Barley	123,426,188	— 45,980,320	72.9	115,641,696	— 42,169,671	— 18,651,810	73.3	86.1
Oats	511,064,110	— 67,788,214	88.3	489,325,305	— 54,775,545	— 40,841,483	89.9	92.3
Maize	11,393,232	— 9,556,998	54.4	11,393,232	— 9,556,998	— 6,341,949	54.4	64.2
Buckwheat	68,222,406	+ 1,496,147	102.2	64,764,353	+ 1,342,482	— 2,042,908	102.1	96.9
Millet	34,393,518	— 21,339,157	61.7	33,405,417	— 21,357,025	— 14,261,642	61.0	*c*70.8
Peas	17,499,919	— 7,862,516	69.0	15,166,358	— 6,353,265	— 1,840,404	*d*70.4	89.2
Potatoes	464,086,755	+ 14,613,642	*d*103.2	303,069,273	+ 10,511,744	+ 23,074,735	103.6	108.2

a The population of Finland in 1885 was 2,203,358 out of a total for European Russia of 91,888,847. The latest statistics for Finland are for 1885, for which year there were 113,472 bushels of wheat, 10,522,818 of rye, 5,078,858 of barley, 10,096,223 of oats, and 13,577,481 of potatoes.

b The population of Poland in 1885 was 7,960,304, and that of Poland and Finland together 10,163,662, or not quite one-ninth of the total population of European Russia. Until recently the annual crop statement has not included statistics for either Poland or Finland, and the statement here given for European Russia exclusive of these two divisions will facilitate comparison with the figures for former years.

c These are the official figures, but a calculation based on the crop figures contained in the table would give a fraction less than 70.1, instead of 70.8.

d A closer approximation to the result obtained from the crop figures would be 70.5, instead of 70.4, and 103.3, instead of 103.2.

It will be observed that, with the exception of spelt and buckwheat, the grain crops of 1889 not only show a small percentage as compared with the abundant crops of 1888, but are for the most part considerably below the average for the five years 1883–'87.

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SWEDEN—PRINCIPAL CROPS OF 1889.

The official report on the crops of Sweden for 1889 contains an approximate statement of the produce of the principal food crops for that year, and of the average annual product of the same crops for the preceding decade. The official figures on these points and certain others, with their equivalents in our own denominations, are given below:

Total product and average weight.

Crops.	1889.				Average for the decade 1879–'88.			
	Quantities produced.		Average weight.		Quantities produced.		Average weight.	
			Per hecto-liter.	Per bushel.			Per hecto-liter.	Per bush.
	Hectolit'rs.	*Bushels.*	*Kilos.*	*Pounds.*	*Hectoliters.*	*Bushels.*	*Kilos.*	*Lbs.*
Wheat	1,306,800	3,708,015	*a*78.5	61.0	1,257,000	3,566,738	*a*78.1	60.7
Rye	7,374,300	20,924,576	*a*73.2	56.9	7,198,700	20,426,311	*a*72.4	56.3
Barley	4,969,200	14,100,105	63.9	49.6	5,452,500	15,471,469	63.3	49.2
Oats	17,475,200	49,585,880	44.4	34.5	19,674,700	55,826,961	47.7	37.1
Mixed grain	2,384,200	6,765,168	53.7	41.7	2,400,100	6,810,284	54.7	42.5
Pease	527,200	1,495,930	79.6	61.8	591,200	1,677,530	78.6	61.1
Beans	56,800	161,170	74.7	58.0	94,800	268,995	76.8	59.7
Vetches	238,900	677,879	75.0	58.3	267,400	758,748	72.6	56.4
Potatoes	24,928,800	70,735,470	.....	.....	18,000,900	51,077,554	.....	.....

a These are the weights of winter wheat and winter rye, respectively.

The total weight of grain and leguminous seed harvested in 1889 and the average weight of the annual product for the decade 1879–'88 were as given below:

	Tons of 1,000 Kilograms.	Tons of 2,240 pounds.
Crop of 1889	1,927,105	1,896,650
Average for 1879–'88	2,106,875	2,073,579

On the basis of the market prices at the time of computation the values of the crops of 1889 would be as given below; but it is pointed out in the official report that as the produce sold is on the whole better than that retained the actual value will fall below the figures given:

Products.	Millions of francs.	Millions of dollars.
Wheat	21	4.05
Rye	95	18.34
Barley	54	10.42
Oats	106	20.46
Mixed grain	20	3.86
Leguminous seeds	14	2.70
Total grain and leguminous seeds	310	59.83
Potatoes	104	20.07

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ONTARIO.

The Ontario Department of Agriculture in Bulletin XXXI of the Bureau of Industries, issued November 25, 1889, published the statistics of the principal crops of the province for 1889 in comparison with those for 1888, and for the eight year period 1882–'89. The figures for 1888 and 1889 are given below:

Crops.	1889.				
	Area.	Product.		Yield per acre.	
	Acres.	*Imp. bush.*	*Win. bush.*	*Imp. bush.*	*Win. bush.*
Winter wheat	822,115	13,001,865	13,411,634	15.8	16.3
Spring wheat	398,610	5,697,707	5,877,299	14.3	14.7
Total	1,220,725	18,699,572	19,288,983	15.3	15.8
Rye	90,106	1,431,679	1,476,806	15.9	16.4
Barley	875,286	23,386,388	24,123,527	26.7	27.6
Oats	1,923,444	64,346,301	66,374,496	33.5	34.5
Maize (in the ear)	187,116	9,218,199	9,539,702	49.4	51.0
Buckwheat	56,398	1,272,578	1,312,690	22.6	23.3
Pease	708,068	13,509,237	13,935,048	19.1	19.7
Beans	21,830	371,893	383,615	17.0	17.6
Potatoes	145,812	14,355,529	14,808,015	98.5	101.6
Carrots	11,261	3,431,959	3,540,134	304.8	314.4
Mangel wurzels	21,211	7,223,478	7,451,162	340.6	351.3
Turnips	111,103	37,021,260	38,188,170	333.2	343.7
Hay and clover	2,386,223	a3,728,313	.....	a1.56	.....

Crops.	1888.				
	Area.	Product.		Yield per acre.	
	Acres.	*Imp. bush.*	*Win. bush.*	*Imp. bush.*	*Win. bush.*
Winter wheat	826,537	13,830,787	14,296,733	16.7	17.3
Spring wheat	367,850	6,453,559	6,656,975	17.5	18.1
Total	1,194,387	20,284,346	20,923,709	17.0	17.5
Rye	84,087	1,295,302	1,336,130	15.4	15.9
Barley	895,432	23,306,569	24,103,083	26.1	26.9
Oats	1,849,868	65,466,911	67,530,428	35.4	36.5
Maize (in the ear)	222,971	17,436,780	17,986,387	78.2	80.7
Buckwheat	57,528	1,222,283	1,260,809	21.2	21.9
Pease	696,653	14,269,863	14,719,649	20.5	21.1
Beans	22,700	534,526	551,374	23.5	24.3
Potatoes	153,915	22,273,607	22,975,671	144.7	149.3
Carrots	11,524	3,898,584	4,021,467	338.3	348.1
Mangel wurzels	21,459	10,020,659	10,336,510	467.0	481.7
Turnips	113,188	47,640,237	49,141,857	420.9	434.2
Hay and clover	2,292,638	a2,009,017	.....	a0.88	.....

a Tons.

MANITOBA.

Crop Bulletin No. 24, issued by the Manitoba Department of Agriculture, under date of October 1, 1889, contains the official estimate of the principal crops of the province for 1889, side by side with the average for the five years, 1883–'87. The figures are given below, imperial bushels being reduced to their equivalents in Winchester bushels:

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Crops.	1889.			Average for 1883–'87.		
	Area.	Product.		Area.	Product.	
	Acres.	*Imp. bush.*	*Win. bush.*	*Acres.*	*Imp. bush.*	*Win. bush.*
Wheat	623,245	7,201,519	7,428,511	339,950	7,137,210	7,362,175
Oats	218,744	3,415,104	3,522,748	155,716	5,302,963	5,470,112
Barley	80,238	1,051,551	1,084,696	53,383	1,308,437	1,349,676
Potatoes	11,941	1,393,385	1,437,304	11,440	2,389,917	2,465,247
Hay	.....	*a* 199,501	.....	.....	*a* 278,843	

a Tons.

THE COTTON CROP OF THE PUNJAB.

The revenue and agricultural department of British India has issued its final report on the cotton crop of the Punjab for 1889. The area is estimated at 946,000 acres as compared with 756,300 in 1888, the increase being 207,700 acres, or nearly 27½ per cent.

The product is estimated at 2,670,577 hundred-weights (299,104,624 pounds) an increase of 29 per cent. as compared with the product in 1888, the average yield per acre being a fraction over 310 pounds as compared with 306 pounds in 1888. Though the area is considerably larger than in 1888 and the rate of yield a trifle better, the crop of 1889 is not estimated at more than about five-eighths of a full average. This is the third season in succession in which the cotton crop of the Punjab has turned out badly.

NOTES ON FOREIGN AGRICULTURE.

[Reports of United States consular officers.]

England, Leeds.—United States Consul Wigfall, in a report dated March 1, states that the weather of February was generally seasonable, vegetation having been sufficiently checked by frost without being seriously injured. The temperature during the month was lower than for January. Fruits and grain crops are very forward and liable to injury should March prove severe. Additional outbreaks of pleuro-pneumonia are constantly heard of. A statement is given showing that during the month of January, 1890, Great Britain imported agricultural products to the value of £13,800,692, which came into direct competition with the products of English agriculture. As compared with the same month in 1889, there was an increase in the items of butter, cattle, fresh beef, mutton, wheat flour, and a decrease in margarine, eggs, sheep, wheat, barley, oats, apples, and onions. Taking all things into consideration, the consul declares the present prospects for farmers during the coming year as fairly good.

Mexico, Guaymas.—Consul Willard, on March 1, writes that the principal products of his district are wheat, corn, and beans, and that of

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the former more than 1,000 tons were exported to Europe, the first exportation in the history of the district. Corn and beans are raised entirely for home consumption. The use of American agricultural implements is becoming general among the better class of agriculturists. American plows are used by those owning large farms, and a small number of thrashing and reaping machines are in use.

Scotland, Glasgow.—Consul Brown, in a report dated February 18, states that for the ten preceding days they had experienced freezing weather, and as a consequence farmers feel sure that their freshly turned furrows will be pulverized and fitted for the coming spring and summer crops. Farmers there do their plowing for spring crops in the fall, the action of frost being considered very useful in soil preparation. The winter generally, however, has been very mild, and young cattle and sheep have in some instances been allowed to run upon pastures uninterruptedly. It is believed that had the winter been more severe, necessitating the housing of all stock, the condition of the animals and perhaps the profits of the business would have been more satisfactory.

Ireland, Dublin.—Consul Reid, in a report dated February 13, states that from an agricultural stand-point the year 1889 was a prosperous one in that island; for most of the crops grown in that country the season was favorable. The early part of the season was dry, facilitating the putting in of the crops. The growing months were marked by frequent and gentle rain-falls, which contributed to the maturing of the crops on a luxuriant scale. During the harvest season, however, the rain-fall was somewhat excessive, doing some damage, especially to hay, barley, and potatoes. The prevailing prices of agricultural products are fairly satisfactory. There is a steady tendency among the farmers to enter more largely into cattle-growing, because of the better profits realized in this branch of agriculture. During the last decade much arable land has been abandoned by the occupants and its owners have devoted it to grazing and grass-growing purposes. The official returns show that the land in cultivation in 1889 was less by 162,000 acres than the average for the ten years preceding and that the acreage of pastures and meadows was increased 168,000 acres. The growing of live-stock is a most important branch of rural industry in Ireland and it is the one line in which successful competition with the American farmer seems possible.

The total value of cattle, sheep, and swine is nearly twice as great as the value of the entire annual agricultural products of the island. Aside from the small home consumption the only market afforded for Irish cattle is that furnished by Great Britain. The shipments during 1889 were somewhat smaller than those of the previous year, but were quite equal to the average for a recent period. It is stated upon eminent authority that Ireland supplies the English market every year with 40,000 tons more of fresh meat than all foreign countries and the British colonies together.

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At present all exportation of this class consists entirely of live animals. The question of shipping dead meats instead of living stock is now engaging a great deal of attention, it having been represented that the stock-growers of Ireland are deprived of a large share of the profits in consequence of the abnormal demands of middle men and the greater cost of shipping live animals. It is urged that the prices realized by stock-growers bear no just proportion to the prices paid by British consumers, the unjust differences going to swell the profits of handlers and intermediaries.

One feature of the proposed change contemplates the renting of large shops or stalls in the London market for the use of the different provinces of Ireland and the erection of abattoirs in each cattle-growing community in order that the stock may be slaughtered at home, avoiding loss and depreciation in quality of meat following shipments on foot. It is further proposed to provide at each abattoir an organization for dealing with the total number of animals slaughtered and for reckoning with each contributor to the total according to the amount of his contribution. The management of this slaughter-house will be practically co-operative and upon the system which is now practiced in co-operative creameries in this country. The representative stock-growers who are moving in this matter are sure that the results which they can secure by united and harmonious action will prove a great benefit to the live-stock industry of Ireland.

Ireland, Cork.—Consul Piatt, in a report dated February 28, states that the autumn and winter season in the south of Ireland has been marked by excessive rain, making it the wettest season for many years. The excess of moisture delayed and prevented plowing and sowing of wheat last autumn so that the breadth of the crop is much smaller than usual. The present condition of the plant is good, promising a fair harvest. Wheat, however, is always a very small crop, many farmers sowing it only, or chiefly, for straw for thatching purposes. Early potatoes have already been planted, and those for later growth are usually put in before the close of March. For some years past, Irish farmers have been giving more attention to the raising of cattle and other stock, and to dairy farming, as that branch of rural industry requires the hiring of less labor, which, on account of emigration, is becoming comparatively dear. Agricultural implements in use in that district are either of home manufacture or brought from England and Scotland. American reapers and mowers are used by the more enterprising farmers, but these are bought through English dealers who import them. Until there is some system of direct trade communication there is little likelihood of much advance in the use of American implements.

Spain, Cadiz.—Consul Turner on February 4 writes that, up to that date, the unusual drought already reported still prevailed, and that the people, in consequence, are very much disheartened. Prayers for rain continue to be offered in all churches. Prices of all grains show an up-

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ward tendency and much suffering is feared. The following quotation from a Gibraltar paper relative to the disheartening prospect for the coming season in Morocco is declared to apply equally forcibly to the Spanish provinces in his consular district:

At last the forebodings which have for the past few months been steadily forcing themselves upon all interests in Morocco, with regard to the coming harvest, are assuming a formidable shape. The continued beautiful weather is all very splendid for visitors, but to those who remember that the lives of many thousands and the welfare of millions are jeopardized thereby, it can not give very great pleasure. It is true that just enough rain has already fallen to permit of the farmers engaging in a considerable amount of plowing and sowing, and if a good rain-fall is not much longer delayed enough may be grown this year to meet the immediate necessities of the country; but if not, a terrible time is in store for Morocco this summer, so terrible that only those who have witnessed a genuine famine can realize what it means. Surely one who fears the bounteous God who sends the rain and the sunshine—and the warmth to swell the grain—be he Moslem, Jew, or Christian—should offer special prayer to Him that He may feed this people, and that while yet there is time He may refresh the thirsty land with the much-needed rain.

Argentine Republic, Buenos Ayres.—Consul Baker, under date of January 20, makes the following report upon the Argentine harvest of 1889–'90.

ARGENTINE HARVEST OF 1889–'90.

It is only within the last few years that the cultivation of the soil in this country, and especially of the pampa regions, was attempted at all, except in mere isolated patches of ground. There was a general impression that the soil was quite unfit for cereal crops and would only answer for grazing purposes, and that the great industry of the Argentine Republic must continue to be the raising of cattle and sheep. This impression has been thoroughly exploded by recent experiences in all portions of the pampa. More satisfactory crops could scarcely be desired than are now annually harvested in the provinces of Santa Fé, Entre Rios, and Buenos Ayres, and every year there is a larger breadth put down in crops. From being dependent upon the United States and Chili for breadstuffs, the Argentine Republic now not only supplies the home demand but has become no inconsiderable exporter.

In regard to the crop of 1889–'90, I am, however, able to say that it has now been safely harvested; and that it is known to be an immense increase on that of the previous season. Of course, the amount of the crop it is not possible to state; but Mr. A. E. Fleiss, a well-known expert in agricultural statistics, after a careful survey of the harvest, has published in the Nacior newspaper of this city his calculation of the result. He estimates the present crop to be as follows:

	Tons.
Wheat crop	1,035,000
Corn crop	1,850,000
Flax crop	140,000

The quality of the wheat is generally regarded as first class; and after a liberal allowance for the home demand, there will be fully a half

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million tons of wheat and a million and a half tons of Indian corn for export.

[From the Buenos Ayres Standard, January 15.]

Argentine Agriculture.—In the absence of official statistics, it is an arduous task to draw up any calculations as to the area of land under cereals in this Republic and the possible or probable results of the harvest. It is high time that the national department of lands and colonies should stir in the matter and give the public some evidence not only of its existence but of its utility. Up to the present the department has kept away from the public gaze; what it does nobody knows; and since it is in existence it should confirm the fact by some statistics on the status of agriculture in the country. The agricultural products of the Republic are becoming every year more important; very soon the export of cereals will quite eclipse that of pastoral products, and it may be timely to remind the agricultural and land department of a fact that it appears to ignore.

Mr. Alois E. Fleiss, a recognized authority in all agricultural matters, has come to the front to fill the void and inform the public of his calculations in such vital matters, and we have much pleasure in some of his figures for 1889–'90; but our readers must make full allowance for the amount of guess-work that such calculations must necessarily entail in the absence of official data. The figures in the comparison for 1884 are our own, which we can vouch for, and the comparison is not unfavorable to Mr. Fleiss's calculations, which, if anything, may be under mark. Beginning with the area of land under cereals in the Republic we see:

	1884.	1889.
	Hectares.	*Hectares.*
Wheat	686,000	1,035,000
Maize	330,000	850,000
Flax	79,200	140,000

If we consider the enormous spurt that agriculture has made in the last five years we should be inclined to believe that Mr. Fleiss's figures for 1889 are very much beneath the mark; so much the better, as the public has been surfeited with the gross exaggerations of previous years, when the most absurd calculations were current and deceived the home and foreign markets. It must be remembered that the country has received since 1884 more than three hundred thousand immigrants, and the great numbers of these new arrivals have swelled the ranks of colonists and enormously enhanced the value and quantity of cereal production in the Republic. At the same time, our cereal production must today provide for the consumption of at least half a million more people than in 1884, and in a calculation of the probable export of wheat from the country this fact may often be forgotten.

Mr. Fleiss calls attention to the splendid quality of the wheat crop

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this season. The wheat is so fine that it can compare with the very best North American classes. Argentine wheat for years past has been selling at one-half to 2 francs less than the superior Russian and American qualities; this season, however, Argentine classes will be quoted on a par with the best.

Calculating a population of 3,300,000 souls in the country, the following proportion is drawn of the quantities needed for consumption and the balance left for exports:

	Consumption.	Surplus.
	Tons.	*Tons.*
Wheat	540,000	595,000
Maize	500,000	1,350,000
Flax	40,000	100,000
	1,080,000	2,045,000

Thus there will be at least 2,000,000 tons of grain that must be exported, a calculation that will gladden the hearts of shippers, for at least 1,500 steamers will be needed to carry that great bulk of grain. As we have stated before, we believe these figures are much under the mark.

The value (gold) of the agricultural production of the country, embracing all cereals, wine, sugar, tobacco, etc., is calculated as follows:

Wheat, maize, flax	$63,280,000
Alfalfa	20,060,000
Sugar	5,500,000
Wine	1,000,000
Tobacco	1,000,000
Various	6,115,000
	96,955,000

Mr. Fleiss makes his calculation $100,255,000 gold, but he made the mistake of adding to the above 3,300,000, the calculated population of the republic. Here we beg to think that the population of the country exceeds 4,000,000, but this is a mere question of detail.

It is interesting to compare this total value of the agricultural production of the Republic with that of other countries; the figures for the latter are for 1882 or thereabouts:

United Kingdom	£266,000,000
France	444,000,000
Germany	456,000,000
Russia	509,000,000
Austria	322,000,000
Italy	178,000,000
Spain	136,000,000
United States	604,000,000
Canada	58,000,000
Australia	76,000,000
Argentine Republic	19,390,000

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England, Birmingham.—Consul Jarrett, under date of February 1, 1890, makes the following report:

The British farmers are bitterly complaining that wheat production is unremunerative. They are therefore turning their attention to the growth of fodder in place of wheat. Fodder does not require the same care and labor that wheat does. They should produce butter and good milk, at least such were the arguments that were used at the last meeting of the Midland Agricultural Society in this city a few days ago.

America, Australia, Russia, and India will no doubt for many years have to supply the British people with wheat and a very large quantity of their food products. Exports of wheat from Russia in 1889 were 11,863,924 quarters, against 13,974,866 quarters in 1888; 8,722,044 quarters in 1887, and 5,950,156 quarters in 1886. The United Kingdom received from Russia 4,975,046 quarters of wheat in 1889, 4,986,050 quarters in 1888, and 1,288,647 quarters in 1887.

To indicate the direction of thought, I submit in conclusion the following from the pen of Mr. George T. Turner, a leading authority on agricultural questions:

With regard to foreign imports since September 1 last, they have been but moderate. Russia has sold freely, whilst the United States has looked on; but Russian wheats have been cheaper, and otherwise preferable to the red winter wheats of America, so that the latter have not been sought after by our millers. The new flours manufactured from the northwestern spring wheats by Lake Shore mills have proved to be of excellent quality, and they are likely to be sold on our market at rates which even London millers, with the world's grist at their disposal, may find it difficult to compete with. The outlook for foreign malting barleys is chiefly from California for the best, and from Smyrna and the Danube for qualities which now range up to 26*s.* ($6.32) per 400 pounds. At the close of 1889 the position of the trade is as uncertain as it has ever been of late years. Recent experiments show that low prices in our market do not restrict imports. If America hesitates Russia takes the money, and exporting countries as a whole have given us plain proof that, one year with another, they will accept our times prices for their surpluses.

On the whole the disposition has been to ship more freely when values are low than when they are somewhat higher.

A rising market is rarely followed quickly, but a falling one is rushed after by sellers, apparently with the idea that out of the known depth to which values have gravitated some lower depth may suddenly open up before them. At present there are no outward and visible signs of any material change in the level of values for breadstuffs, but the British public should bear in mind that whilst we grow only about one-third of the wheat we consume, it is the foreign producer who determines the price of their daily bread.

Australia, Victoria.—Mr. Charles O. Montrose, editor of the Victorian *Farmers' Gazette*, in a letter under date of February 17, 1890, states that there has been a serious loss in their grain fields on account of the prevalence of red rust. Vineyards have also suffered severely by the ravages of a small fly, species unknown.

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TRANSPORTATION RATES.

FREIGHT RATES—RAILROAD COMPANIES.

Changes in rates.—No important changes are reported in the rates of freight to or from New York or Chicago. The Chicago, Milwaukee and St. Paul Company reports a reduction upon grain other than wheat in car-load lots of 2½ cents per 100 pounds, Chicago to St. Paul, or from 12½ cents March 1 to 10 cents April 1; and upon lumber from 14 cents March 1 to 10 cents April 1. The Chicago, Burlington and Quincy Company reports an increase in the rates upon green hides in car-load lots, Kansas City to St. Louis, of from 20 cents per 100 pounds March 1 to 30 cents April 1, and upon cattle from 7½ cents March 1 to 9¼ April 1.

The returns from transatlantic companies April 1 show a considerable decrease in the rates upon export products as compared with those reported March 1, as shown in the following table:

Articles.	New York to Liverpool.		New York to Glasgow.	
	Mar. 1.	Apr. 1.	Mar. 1.	Apr. 1.
Wheat.....per bush..	$0.10	$0.07	$0 10½	$0.06
Corn.....do....	10	07	10½	06
Flour.....per bbl..	72	60	60	48
Flour (in sacks).....per 2,240 lbs..	4.20 to 4.80	3.00 to 3.60	4.80	3.60
Lard.....do..	6.00 to 7.20	4.80 to 5.40	7.20	6.00
Tallow.....do....	6.00 to 7.20	4.80 to 5.40	7.20	4.80
Beef.....per tierce..	1.32	1.08	1.44	1.20
Oil cake.....per 2,240 lbs..	3.60 to 4.80	2.40 to 3.00	4.80	3.60
Cotton.....per lb..	.00 7/16	.00 11/32	.....	.....
Tobacco.....per hhd..	7.20 to 8.40	6.00 to 7.20	6.00	5.40
Measurement per ton (40 cubic feet).....	3.60 to 9.60	3.60 to 6.00	4.80 to 6.00	4.80 to 6.00

The following transportation companies report no important changes in their rates since last published:

Pennsylvania lines (west of Pittsburgh).
New York Central and Hudson River Railroad.
New York, Lake Erie and Western Railway.
Lake Shore and Michigan Southern Railway.
Chicago and Atlantic Railway.
Delaware, Lackawanna and Western Railroad (east and west bound).
Chesapeake, Ohio and Southwestern Railroad.
Grand Trunk Railway.
Chicago, Burlington and Quincy Railroad.
Chicago, Milwaukee and St. Paul Railway.
Louisville and Nashville Railroad.
Northern Pacific Railroad.
St. Paul and Duluth Railroad.
Merchants and Miners' Transportation Company.
Old Dominion Steam-ship Company.
Portland Steam Packet Company.
Winsor Line.

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MOBILE AND OHIO RAILROAD COMPANY.

[Rates in effect April 1, 1890.]

Articles.	From St. Louis and East St. Louis to				
	Hickman, Ky.	Memphis, Tenn.	Huntington, Miss.; Friars Point, Miss.	Greenville, Miss.	Vicksburg, Miss.; Baton Rouge, La.; New Orleans, La.; Mobile, Ala.
Agricultural implements, C. L. ..... per 100 lbs..	$0.15	$0.15	$0.25	$0.25	$0.25
Apples:					
Green or dried, C. L ..... do....	.15	.15	.25	.25	.25
Green, in barrels (150 pounds per barrel) L. C. L... do....	.18	.25	.35	.35	.35
Bacon, hams, and shoulders, packed, C. L ..... do....	.....	.....	.25	.25	.25
Beans and peas, dried, C. L ..... do....	.15	.15	.25	.25	.25
Beef and pork, salted, in barrels ..... per bbl..	.45	.50	.75	.75	.75
Butter, in refrigerator cars ..... per 100 lbs..	.35	.50	.75	.75	.75
Cheese, in refrigerator cars ..... do....	.30	.45	.65	.65	.65
Cotton, in bales:					
Compressed ..... per bale..	.....	.....	.....	.....	*1.25
Uncompressed ..... do....	.....	.....	.....	.....	*1.75
Cotton-seed oil (refined), C. L ..... per 100 lbs..	.....	.....	.....	.....	†.20
Cotton-seed meal, C. L ..... do....	.12	.12	.20	.20	.20
Fertilizers, C. L ..... per ton..	.....	2.10	3.05	3.05	3.05
Flour and meal, C. L. (30,000 lbs. min.) ..... per 100 lbs..	.....	.11	.18½	.18½	.18½
Fruit, green or dried, C. L ..... do....	.15	.15	.25	.25	.25
Grain and bran, C. L. (30,000 lbs. min.) ..... do....	.....	.09	.16	.16	.16
Hides:					
Dry, loose, or in bundles ..... do....	.40	.65	.90	.90	.90
Dry, in bales ..... do....	.25	.35	.50	.50	.50
Green, C. L ..... do....	.....	.....	.28	.28	.28
Hops:					
Pressed, in bales ..... do....	.30	.45	.65	.65	.65
In boxes ..... do....	.40	.65	.90	.90	.90
Lard:					
In crocks or buckets, C. L. ..... do....	.....	.....	.28	.28	.28
In barrels or tierces, C. L ..... do ..	.....	.....	.25	.25	.25
Lumber:					
Dressed, or common, C. L ..... do	.15	.15	.25	.25	.25
L. C. L ..... do....	.25	.35	.50	.50	.50
Meats:					
Fresh, in refrigerator cars, C. L ..... do ..	.....	.25	.45	.45	.45
Prepaid, released, L. C. L ..... do....	.30	.45	.65	.65	.65
Meat, in bulk, C. L. (24,000 lbs. min) ..... do ..	.15	.15	.25	.25	.25
Potatoes:					
C. L ..... do	.15	.15	.25	.25	.25
released, L. C. L ..... do ..	.18	.25	.35	.35	.35
Salt:					
C. L ..... per bbl ..	.....	.23	.55	.55	.55
In sacks, L. C. L ..... per 100 lbs	.18	.25	.35	.35	.35
Tobacco:					
Unmanufactured ..... do....	.....	.20	.27	.27	.27
Leaf, in cases ..... do	.30	.45	.65	.65	.65
Vegetables:					
Green or dried, C. L ..... do....	.15	.15	.25	.25	.25
N. O. S., prepaid, or guarantied, released, L. C. L.. do....	.30	.45	.65	.65	.65
Wool:					
In bags ..... do	.40	.65	.90	.90	.90
N. O. S., pressed, in bales ..... do	.30	.45	.65	.65	.65
Poultry, live, in coops, C. L ..... per car..	.....	.....	98.00	96.00	.....
Cattle, C. L ..... do....	.....	40.00	85.00	85.00	85.00
Sheep, C. L ..... do ..	.....	40.00	85.00	85.00	85.00
Hogs, C. L ..... do....	.....	40.00	85.00	85.00	85.00
Horses and mules, C. L ..... do....	40.00	50.00	98.00	96.00	100.00

C. L.—Car-load. L. C. L.—Less than car-load. * To New Orleans only. † To New Orleans and Mobile only.

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THE TRANS-MISSOURI FREIGHT ASSOCIATION.

[Rates in effect April 1, 1890.]

Articles.	From Denver, Colorado Springs, Pueblo, and Trinidad, Colo., and points taking Denver rates, to—			To Denver, Colorado Springs, Pueblo, and Trinidad, Colo., and points taking Denver rates, from—			
	Chicago, Ill., Memphis, Tenn., St. Paul and Minneapolis, Minn.	Peoria, Ill.	East St. Louis, Ill., and St. Louis, Mo.	Chicago, Ill., and Memphis, Tenn.	St. Paul and Minneapolis, Minn.	Peoria, Ill.	East St. Louis, Ill., and St. Louis, Mo.
Agricultural implements (except hand): 20,000 pounds minimum weight, C. L. per 100 lbs.	$1.15	$1 11½	$1.07½	$1.10	$1.07	$1.06½	$1.02½
N. O. S., K. D. flat, in bundles, L. C. L. do	2.30	2.20	2.10	2.20	2.15	2.10	2.00
Apples, in barrels or boxes, O. R., P. P., or guaranteed, C. L. per 100 lbs.	1.00	.97½	.95	.93	.93	.90½	.88
Hams, hams and shoulders, packed, C. L. do	.93	.90½	.88	.93	.93	.90½	.88
Beans and peas, dried, in barrels or in bulk, C. L. per 100 lbs.	1.00	.97½	.95	.93	.93	.90½	.88
Beef, pickled: C. L. do	.93	.90½	.88	.93	.93	.90½	.88
L. C. L. do	1.20	1.17½	1.15	1.15	1.15	1.12½	1.10
Butter, in wood or tin, O. R.: C. L. do	1.50	1.45	1.40	1.45	1.42	1.40	1.25
L. C. L. do	1.90	1.80	1.70	1.80	1.75	1.70	1.60
Cheese, in boxes, tubs, or casks: C. L. do	1.50	1.45	1.40	1.45	1.42	1.40	1.35
L. C. L. do	1.90	1.80	1.70	1.80	1.75	1.70	1.60
Corn, oats, rye, barley, or mill stuffs. C. L. do	.....	.....	.....	.50	.45	.47½	.45
Corn meal, C. L. do	.....	.....	.....	.57½	.55	.55	.52½
Cotton-seed cake and meal, C. L. do	.....	.....	.....	.50	.45	.47½	.45
Cotton seed oil, C. L. do	.....	.....	.....	.68	.68	.65½	.63
Dead hogs (not dressed), 20,000 pounds minimum weight, C. L. per 100 lbs.	1.00	.97½	.95	.93	.93	.90½	.88
Fertilizers, C. L. do	.45	.42½	.40	.53	.52	.50½	.48
Flour, C. L. do	.55	.52½	.50	.55	.55	.52½	.50
Fruit: Dried, N. O. S., C. L. do	1.20	1.17½	1.15	1.15	1.15	1.12½	1.10
Tropical, straight or mixed, C. L. do	1.50	1.45	1.40	.90	.90	.85½	.81½
Green, N. O. S., O. R., P. P., or guaranteed, C. L. per 100 lbs.	1.50	1.45	1.40	1.45	1.42	1.40	1.35
Hides: And sheep pelts, dry, C. L., 10,000 pounds, minimum weight per 100 lbs.	1.90	1.80	1.70	1.80	1.75	1.70	1.60
Dry, in bundles, L. C. L. do	2.30	2.20	2.10	2.10	2.15	2.10	2.00
Green, C. L. do	.93	.90½	.88	.93	.93	.90½	.88
Lard: In crocks, buckets, boxes, barrels, or casks, C. L. per 100 lbs.	.93	.90½	.88	.93	.93	.90½	.88
In barrels or tierces, L. C. L. do	1.20	1.17½	1.15	1.15	1.15	1.12½	1.10
Meats: Fresh, O. R., P. P., or guaranteed, C. L., per 100 lbs. per 100 lbs.	*1.28½	1.26	1.23½	.98½	.98½	.96	.93½
Canned, dried, or salted, C. L. do	.93	.90½	.88	.93	.93	.90½	.88
Pork, packed: C. L. do	.93	.90½	.88	.93	.93	.90½	.88
L. C. L. do	1.20	1.17½	1.15	1.15	1.15	1.12½	1.10
Potatoes: Irish, C. L. do	.55	.52½	.60	.65	.65	.62½	.60
In sacks or barrels, L. C. L. do	1.20	1.17½	1.15	1.15	1.15	1.12½	1.10
Sweet, C. L. do	.75	.72½	.70	.65	.65	.62½	.60
Salt: C. L. do	.....	.....	.....	.50	.49	.47½	.46½
In sacks, boxes, or barrels, L. C. L. do	1.20	1.17½	1.15	1.15	1.15	1.12½	1.10
Tobacco, unmanufactured, in hogsheads or cases, L. C. L. per 100 lbs.	1.20	1.17½	1.15	1.15	1.15	1.12½	1.10
Wheat and flax seed, C. L. do	.....	.....	.....	.57½	.55	.55	.52½
Wool: In sacks, any quantity do	1.85	1.75	1.65	.....	.....	.....	.....
Machine compressed, C. L. (10,000 pounds minimum weight) per 100 lbs.	1.50	1.45	1.40	.....	.....	.....	.....
Horses, in standard cars, C. L. per car	108.00	92.25	90.50	115.00	115.00	103.25	97.50
Cattle, C. L. do	*86.00	86.00	68.50	105.00	105.00	96.25	87.50
Hogs, single deck, C. L. do	98.00	89.25	80.50	.....	.....	.....	.....
Sheep: Double deck, C. L. do	98.00	89.25	80.50	105.00	105.00	96.25	87.50
Single deck, C. L. do	58.80	50.05	48.30	63.00	63.00	57.75	52.50

*Will not apply to St. Paul and Minneapolis.

C. L.—Car-loads. L. C. L.—Less than car load. N. O. S.—Not otherwise specified. K. D.—Knocked down. O. R.—Owner's risk. P. P.—Prepaid.

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YAZOO AND TALLAHATCHIE TRANSPORTATION COMPANY.

[Rates in effect April 1, 1890.]

Articles.	Vicksburg, Miss., to—		
	All landings below Yazoo City, Yazoo City, Silver Creek, Tehula, Riverside.	Greenwood.	Tallahatchie River.
Apples, green, in barrels.....per bbl..	$0.20	$0.20	$0.25
Apples and peaches, dried.....per 100 lbs..	.12½	.12½	.15
Bacon, packed.....do....	.10	.10	.12½
Beans, in barrels, boxes, or sacks.....do....	.10	.10	.12½
Beef and pork.....per bbl..	.35	.35	.40
Beef, smoked, in boxes or barrels.....per 100 lbs..	.10	.10	.12½
Butter, in wood.....do....	.12½	.12½	.15
Cheese.....do....	.12½	.12½	.15
Corn meal.....per bbl..	.20	.20	.25
Cotton, in bales.....per bale..	.75	.75	1.00
Cotton-seed oil, C. L.....per bbl..	.75	.75	1.00
Flour, in barrels.....do....	.20	.20	.25
Grain.....per 100 lbs..	.10	.10	.12½
Hides:			
Dry, loose, or in bundles.....do....	.12½	.12½	.15
Green.....do....	.10	.10	.12½
Lard, in buckets, tierces, kegs, or cases.....do....	.10	.10	.12½
Lumber.....per 1,000 ft..	4.00	5.00	6.00
Oranges and lemons.....per 100 lbs..	.15	.15	.20
Potatoes, in barrels.....per bbl..	.20	.20	.25
Salt.....per sack..	.20	.20	.25
Salt, table.....per 100 lbs..	.10	.10	.12½

C. L.—Car-load. N. O. S.—Not otherwise specified.

ST. LOUIS AND MISSISSIPPI VALLEY TRANSPORTATION COMPANY.

[Rates in effect April 1, 1890.]

Articles.	St. Louis to New Orleans.	Articles.	St. Louis to New Orleans.
Apples, green, in barrels..per bbl.....	$0.25	Hides:	
Apples and peaches, dried:		Dry, loose, or in bundles...do....	$0.50
C. L.....per 100 lbs..	.20	Dry, in bales.....do....	.35
L. C. L.....do....	.25	Green.....do....	.30
Bacon, packed.....do....	.12½	Hops, baled.....do....	.40
Beans:		Lard: In buckets, tierces, kegs, or	
In boxes.....do....	.20	cases.....do....	.12½
In barrels or sacks.....do....	.75	Oranges and lemons.....do....	.50
Beef and pork.....per bbl..	.37½	Oranges and lemons, released..do....	.35
Beef, smoked, in barrels..per 100 lbs..	.37½	Potatoes, in barrels.....per bbl..	.25
Butter, in wood.....per 100 lbs..	.40	Salt.....per 100 lbs..	.37½
Cheese.....do....	.35	Salt, table.....do....	.30
Corn meal.....per barrel..	.25	Tallow, N. O. S.....do....	12½
Cotton, in bales.....per bale..	1.25	Tobacco, unmanufactured:	
Cotton-seed oil, C. L.....per barrel..	.75	In casks.....per 100 lbs..	.30
Flour, in barrels.....do....	.25	In hhds.....per 100 lbs..	.20
Fruit, dried:		Wool:	
N. O. S., C. L.....per 100 lbs..	.20	In bags.....do....	.50
L. C. L.....do....	.25	N. O. S., pressed in bales, per	
Grain.....per 100 lbs..	.12½	100 lbs.....	.20

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified.

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OCEAN STEAM-SHIP COMPANIES.

[Rates in effect April 1, 1890.]

Articles.	White Star Line, New York to Liverpool.	Inman Line, New York to Liverpool.	Guion Line, New York to Liverpool.	Anchor Line, New York to Glasgow.
Wheat ..... per bushel	$0.07	$0.07	$0.07	$0.06
Corn ..... do	.07	.07	.06½	.06
Flour ..... per barrel	.60	.60	.....	.48
Flour (in sacks) ..... per 2,240 pounds	3.00	3.60	3.00	3.60
Bacon ..... do	7.20	6.00	6.00	6.00
Lard ..... do	4.80	5.40	5.40	6.00
Cheese ..... do	8.40	7.20	7.20	9.60
Tallow ..... do	4.80	5.40	4.80	4.80
Beef ..... per tierce	1.20	1.08	1.08	1.20
Pork ..... per barrel	.72	.84	.84	.84
Oil-cake ..... per 2,240 pounds	3.00	3.00	2.40	3.60
Cotton ..... per pound	.00 1/2	.00 5/8	.00 5/8 to .00 3/4	.....
Hops ..... do	.00 15/16	.01	.01	.01
Tobacco ..... per hogshead	6.00	7.20	6.60	5.40
Rosin ..... per 280 pounds	.60	.60	.60	.48
Lard (in small packages) ..... per 2,240 pounds	9.60	7.20	7.20	7.20
Tobacco (in cases) ..... per 40 cubic feet	4.80	4.20	4.20	4.80
Apples ..... per barrel	.72	.72	.72	.84
Hams ..... per 2,240 pounds	7.20	6.00	6.00	6 00
Butter ..... do	9.60	8.40	8.40	9.60
Measurement per ton (40 cubic feet)	4.80 to 6.00	3.60 to 4.80	3.60 to 4.80	4.80 to 6.00
Primage ..... per cent	5	5	5	5

Articles.	North German Lloyd Steam-ship Company, New York to Bremen.	General Transatlantic Company, New York to Havre.
Wheat ..... per 100 pounds	$0.22	.....
Corn ..... do	.22	.....
Flour ..... per barrel	.72	$1.00
Flour (in sacks) ..... per 100 pounds	.30	.35
Bacon ..... do	.30	.....
Lard ..... do	.30	.32½
Cheese ..... do	.42	.....
Tallow ..... do	.30	.32½
Beef ..... per tierce	1.50	1.25
Pork ..... per barrel	1.20	1.00
Oil-cake ..... per 100 pounds	.27½	.30
Cotton ..... per pound	*a*. 00½	.00⅝
Hops ..... do	*a*. 01	.01
Tobacco ..... per hogshead	7.50	8.00
Rosin ..... per 280 pounds	.80	.....
Lard (in small packages) ..... per 100 pounds	.42	.37½ to .45
Tobacco (in cases) ..... per case	1.65	*b*8.00
Apples ..... per barrel	.90	.90
Hams ..... per 100 pounds	.30	.....
Butter ..... do	.60	.....
Measurement per ton (40 cubic feet)	4.80 to 10.00	10.00
Primage ..... per cent	.....	5

a And 5 per cent. primage.

b Per 40 cubic feet.

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DEPARTMENT OF AGRICULTURE.
REPORT OF THE STATISTICIAN.
New Series. Report No. 73.

REPORT

OF THE

CONDITION OF WINTER GRAIN,

THE

PROGRESS OF COTTON PLANTING,

AND

WAGES OF FARM LABOR;

ALSO ON THE

FREIGHT RATES OF TRANSPORTATION COMPANIES.

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

MAY, 1890.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1890.

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MAY REPORT.

DEPARTMENT OF AGRICULTURE,
May 13, 1890.

SIR: I respectfully present herewith, for publication, the crop report, based on returns of the 1st of May, showing the condition of winter grain and of meadows and spring pastures, and the progress of cotton planting. The tendencies to change of crop areas are carefully noted and their causes explained.

The periodical record of the rate of wages of farm labor is made, this being the eighth investigation since 1865, the last previous inquiry being made two years ago. These investigations have covered a period of twenty-four years, under various conditions and causes of fluctuation: first, several years of high prices and divergent currency and gold values, then a season of monetary depression and panic, followed by a return to normal conditions and increasing business activity. These records of different periods also illustrate local changes, one of which is the increase of effectiveness and value of Southern labor. The present investigation does not show a decline in wages of labor in sympathy with reduction in prices.

The usual record of rates of transportation of principal farm products, as required by Congress, is also included.

Respectfully,

J. R. DODGE,
Statistician.

Hon. J. M. RUSK,
Secretary.

REPORT FOR MAY.

WHEAT.

The April report recorded the views of our correspondents, as expressed in their local estimates, of the condition of wheat after the experience of freezing and thawing in March. It was a severe ordeal. The winter had been mild; the plants in a considerable part of the breadth had been growing all winter, were tender and full of moisture, in bad condition for enduring safely the sudden fall of temperature.

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It was difficult to tell, from the appearance of the plants, the precise effect of the freeze. The returns of May were naturally anticipated with interest and anxiety. The result confirms the impression of loss previously reported, and slightly lowers the average of condition, which is 80 instead of 81.

Areas in which the roots were not too severely frozen have improved during the past month; in others the injury is shown to be greater than appearances indicated. Some correspondents state that it is yet too early to know the amount of vitality and ultimate degree of development of the plant. The drained fields suffered least, and mellow soils properly prepared escaped severe injury. Heavy clays undrained, and level areas holding moisture were in many places almost totally destroyed. Hence the heaviest decline in condition appears in Indiana and Illinois. A part of the Ohio breadth improved, while a larger part declined, causing a fall of 5 points for the State. A loss in condition is reported in Texas from the ravages of an *aphis* or plant-louse. There is decline through the southern belt from injury by the March freeze and the depredations of insects.

On the other hand there is a partial recovery from the very low condition of April on the Pacific coast and improvement in Kansas, Michigan, Kentucky, and Tennessee, and in New York.

The averages of condition for the States of principal production are as follows: New York, 91; Pennsylvania, 96; Ohio, 82; Michigan, 73; Indiana, 63; Illinois, 64; Missouri, 82; Kansas, 92; California, 82; Oregon, 95. The Southern States producing wheat: Maryland, 98; Virginia, 95; North Carolina, 80; Georgia, 65; Texas, 67; Tennessee, 82.

Our correspondents are expected to report upon the condition of the crop on the basis of the entire area growing. If in part winter killed, and some of the breadth is plowed up and planted in some other crop, that portion is no longer part of the wheat crop, and in census returns would not be counted as such. If, however, the wheat field has bare spots in it, it is still a wheat field, and all must be counted, the defective stand forming a part of the loss and helping to lower condition. Thus, replanting in other crops reduces *acreage*, but not the *condition* of the growing wheat. A poor stand, like insect depredations, injuries by rust or drought or flood, finds expression in condition. On this basis, the only logical one, reports are always made, unless reporters blunder in mixing acreage with condition.

Condition of wheat is quite as liable to retrograde as advance during April. In seven years there has been advance in two only, in 1883 and 1886. In 1884 the decline was very slight, with high condition in both months; in 1887 it was over two points, and one point this year. The heaviest decline was in 1885, from 76.3 to 70, followed by the lowest rate of yield yet recorded. The record is thus stated:

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April and May percentages of condition.

States.	1883.		1884.		1885.		1886.		1887.		1888.		1889.		1890.	
	April.	May.	April.	May.	April.	May.	April.	May.	April.	May.	April.	May.	April.	May.	April.	May.
Connecticut	95	96	100	95	98	80	95	98	93	94	92	91	87	95	98	99
New York	100	77	97	97	94	95	98	96	97	86	94	76	94	96	88	91
New Jersey	101	101	95	94	65	66	102	100	80	75	95	91	94	97	99	99
Pennsylvania	95	95	99	98	81	80	99	95	70	72	90	87	93	96	99	96
Delaware	90	85	96	92	67	68	97	97	85	86	90	90	97	98	99	99
Maryland	92	99	103	100	59	67	100	101	82	84	92	90	95	98	99	98
Virginia	90	97	101	100	55	53	96	101	79	80	91	90	96	98	98	95
North Carolina	90	96	102	103	75	77	90	93	91	90	95	95	94	95	79	80
South Carolina	93	93	97	98	83	90	75	76	92	88	94	94	93	94	76	70
Georgia	94	97	91	92	79	82	78	77	92	91	96	93	92	96	70	65
Alabama	90	98	88	83	75	83	77	77	94	91	91	93	94	96	77	70
Mississippi	92	92	92	92	83	85	90	80	88	91	90	90	90	92	75	73
Texas	75	87	101	102	93	100	87	90	79	60	88	90	97	88	74	67
Arkansas	87	86	81	95	68	70	100	100	103	98	89	91	97	98	92	91
Tennessee	75	88	98	99	48	57	102	102	94	96	97	92	98	99	80	82
West Virginia	82	90	100	98	58	55	96	99	88	89	81	81	92	97	95	95
Kentucky	80	81	98	99	52	45	101	102	92	95	76	78	97	98	86	92
Ohio	70	62	92	85	74	59	94	97	79	71	68	56	88	90	87	82
Michigan	93	83	94	85	96	100	93	91	92	90	76	64	87	92	67	73
Indiana	75	75	92	85	78	70	97	98	90	87	75	59	94	95	75	63
Illinois	80	66	82	87	62	42	86	92	92	93	74	57	97	98	75	64
Missouri	83	77	91	94	78	60	94	101	95	96	82	80	95	98	83	82
Kansas	70	91	101	103	60	62	68	67	83	81	97	94	96	98	87	92
California	62	80	101	95	90	78	100	102	92	89	99	86	98	99	71	82
Oregon	55	72	102	101	102	101	101	101	98	101	78	81	.....	99	92	95
General	80	83.5	95.4	94	76.3	70	94.1	94.9	88.1	85.8	82	73.1	94	96	81	80

In the remarks of State agents, printed elsewhere, may be found summaries of the situation of the wheat crops of their respective States. Remarks of county correspondents are quoted as follows:

NEW YORK.—*Schuyler:* Is looking well. *Albany:* Favorable condition. *Wyoming:* Condition very good; has suffered to some extent on low lands from too much rain. *Genesee:* The cold, dry weather the 1st of April has lowered the condition of wheat; warm weather greatly needed to start growth. *Schoharie:* Condition good. *Seneca:* Never looked more promising. *Steuben:* Wheat on dry soils never came through the winter in better condition. *Allegany:* Stands well on the ground; looks green, but not large. *Sullivan:* The area of winter grain is slowly decreasing for the reason that the county is better adapted to dairying and raising of cattle. *St. Lawrence:* The absence of snow, and the warm, pleasant weather in April have greatly improved the condition of winter grain. *Chenango:* Has suffered somewhat from the open winter. *Livingston:* Has suffered from the effects of cold northeast winds and from frost, also from dry weather about the middle of April; recent rains will no doubt improve the condition. *Tompkins:* Weather during April very favorable to wheat.

PENNSYLVANIA.—*Sullivan:* Condition far excels that of last year at this time. *Greene:* Prospect was never better. *Lebanon:* Looks very promising except in low places; plant is large, stocky, and healthy. *Armstrong:* An unfavorable March reduced the condition of wheat; the injury was not apparent at last report. *Cumberland:* In splendid condition.

MARYLAND.—*Hartford:* Looking well. *Kent:* Is looking remarkably well; a small green bug has appeared upon wheat, but so far has wrought no injury. *Queen Anne:* Never looked better; very little winter killed or injured by wet weather. *Somerset:* Owing to the very mild winter wheat is more advanced than ever known at this date. *Washington:* In excellent condition. *Baltimore:* Looks very promising. *Caroline:* Some trouble from insects, causing plants to turn yellow; otherwise looks well and bids fair for a good crop. *Howard:* Was never so far advanced at this date. *St.*

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Mary's: With exception of a little blight, looks very promising. *Talbot:* Fallow wheat heavy and two weeks in advance of ordinary seasons; later seeding, on corn land, of less growth and backward; no fly or other trouble thus far.

VIRGINIA.—*Louisa:* Has been a little too wet for wheat; no damage to any extent by insects. *King George:* Has recovered from the effects of the March frost except on wet lands. *Patrick:* A very good average. *Prince George:* Has improved very much in the last two weeks, and what is left by the fly is looking well. *Prince William:* Better than for many years past. *Rockingham:* Prospect was never better. *Wythe:* The cold spell of March did not work as much injury as was feared. *Amelia:* Wheat is very fine in some localities, in others inferior, appearing as if Hessian fly had worked upon it; the appearance of the plant does not indicate the fly of our fathers. *Hanover:* Injured 10 per cent. by fly and midge; was exceedingly promising a few weeks since. *Russell:* Growing and in good condition. *Brunswick:* Is taking rust badly. *Pittsylvania:* The late frosts did considerable damage. *Franklin:* Has been injured to some extent by a small insect which sometimes appears upon wheat after it has headed. *Amherst:* Unusually promising. *Culpeper:* Condition fine, and much earlier than usual. *Fluvanna:* Is suffering for want of moisture. *Frederick:* Is uniformly good. *Halifax:* Owing to several causes, some of which are unexplainable, wheat has depreciated greatly in condition since April; it then looked healthy and promising, but presents a poor appearance now. *Page:* Wheat in some localities, especially on uplands, has been greatly injured by a small green bug; injured also by frost. *Prince Edward:* Injured by fly and frost in March and April. *Warren:* Condition not so favorable on thin lands as a month since; on best lands is coming on finely. *Grayson:* Prospect not flattering; a severe frost about March 1 did much harm. *Loudoun:* The finest prospect for several years. *Middlesex:* Was far above average until sudden and heavy freezes of March 2 and 4. *Richmond:* Is looking very well; some already headed out. *Appomattox:* Since last report the effects of fly in wheat are more perceptible, especially in the northern part of county. *Orange:* Was set back by severe frost in April. *Buckingham:* Very forward owing to mild winter. *Carroll:* Is looking well. *Dinwiddie:* Has been damaged by late frosts. *Scott:* Looks fine.

NORTH CAROLINA.—*Person:* Is looking red near the ground, but no material damages will result; conditions favorable otherwise. *Union:* Slightly injured by frost on the 21st. *Forsyth:* Recovering from late frosts. *Johnston:* Badly damaged by insects. *Yadkin:* Damaged by cold spell in March. *Catawba:* Fears are felt that the crop will be greatly cut off. *Granville:* Wheat is in poor condition, the plant being weak. *Halifax:* Was injured by frost in March. *Transylvania:* Is recovering somewhat from damage by frost. *Watauga:* Condition much impaired by hard freezes in March. *Guilford:* Is thin on the ground, but a better growth than usual. *Rutherford:* Prospect very discouraging; affected by rust and mold. *Stanly:* Damaged by insects in winter, now has rust badly; can not hope for a good crop. *Surry:* Condition as good as usual at this season. *Wayne:* Not over half a crop will be made judging from present outlook. *Jackson:* Unusually promising. *Northampton:* Condition only half as good as usual; injured by red rust. *Wilson:* No improvement since last report. *Burke:* Condition not good; injured by cold weather and somewhat affected by rust. *Caswell:* Has improved wonderfully in the last month. *Chatham:* Wheat shows improvement, but the ravages of insects have made a fair crop out of the question. *Davie:* Has improved very much in last month, and is looking well. *Franklin:* Injured by rust and Hessian fly. *Greene:* Is badly damaged in some localities by Hessian fly; in others, killed by cold weather in March; the warm winter had given the plant unusual growth, and it is now heading out at 6 to 10 inches in height. *Harnett:* In many instances will be a failure; is now red with something like rust from the bottom nearly to the top. *Madison:* Is looking as well as usual for the date. *Mitchell:* Wheat was badly frozen out in March. *Orange:* Not in good condition; some indications of rust; on poor sandy soil no wheat at all.

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Pitt: In some fields will be a total failure, the crop being much injured by the cold weather of March; one correspondent mentions damage caused by an insect styled "blue bug," and rust and blight.

SOUTH CAROLINA.—*Laurens:* Killed out by fly to a large extent. *Abbeville:* Badly injured by fly. *Barnwell:* Was injured by frost in March and recently by drought. *Anderson:* Damaged by frost, and by Hessian fly, and other insects. *Lexington:* Badly injured by fly.

GEORGIA.—*Banks:* Looks almost entirely ruined by rust; do not think it possible for it to make anything. *Campbell:* Some fields will average 100, but the largest portion has been materially injured by fly. *Greene:* The fly and other mishaps have lowered the average, though it has improved the last month. *Hall:* It is difficult to give anything accurate; a freeze in March damaged forward wheat and now we have the rust. *Murray:* Looks badly, owing to cold in March. *Catoosa:* Injured by March frost and is now rusted. *Glascock:* First partially killed by frost, then took rust. *Cobb:* Damaged by late frost. *Dawson:* About ruined with rust. *McDuffie:* Ruined by rust; won't make half crop. *Franklin:* Prospect very gloomy; never knew rust so early. *Hart:* Greatly damaged by Hessian fly and rust. *Jones:* Bids fair to be a complete failure. *Marion:* Rust is now ruining the crop. *Wilkinson:* Has rust. *Douglass:* Has rust. *Walton:* Will be a signal failure. *Meriwether:* Off at least 50 per cent., owing to warm winter, March freezes, and fly. *Gilmer:* An average crop if rust does not strike it. *Gwinnett:* A very warm winter, with one light snow, leaves crops unpromising. *Jackson:* Almost a failure. *Madison:* Prospect gloomy; blades coated with rust. *Paulding:* Very little improvement. *Upson:* Was killed out to some extent by fly, and rust has hurt it so much it is thought 70 per cent. will not be made. *Whitfield:* Injured by cold weather in March.

ALABAMA.—*Chambers:* Has rust. *Cherokee:* Probably a total failure on account of rust. *De Kalb:* A majority of wheat fields have rust, and in all the plant looks weak and unhealthy.

TEXAS.—*San Saba:* Rust is injuring wheat very much. *Baylor:* Drought and a small insect have reduced wheat crop below an average. *Parker:* Two-thirds the crop destroyed by a green bug. *Hood:* Almost entirely destroyed by insects; not one acre in ten will be left standing. *Denton:* Injured by louse (Toxoptera graminum). *Ellis:* Prospect very unfavorable. *Stephens:* Suffered from drought and Hessian fly; later from excessive rains; bottom lands flooded and some fields entirely ruined. *Clay:* Suffering from rust, and a kind of louse or mite that is sucking it. *Johnson:* Badly damaged by February freezes, and recently by chinch bug and fly; prospect gloomy. *Taylor:* Much improved since last report. *Jones:* Late sown promises better than early; hail, rust, and weeds may yet destroy it. *Coleman:* Condition wonderfully improved by good rains. *Tarrant:* Nearly all eaten by some kind of louse.

ARKANSAS.—*Stone:* Much advanced by unusually mild winter. *Lawrence:* Some rust on wheat. *Nevada:* Is behind on account of fly.

TENNESSEE.—*Carrol:* Too much rain; it is taking the rust. *Greene:* Injured by March weather, but recuperating. *Bledsoe:* Has improved a little, but is very thin in some fields. *Williamson:* Is doing badly; has not grown in a week. *Johnson:* Injured badly by cold, freezing weather in March; a great deal plowed up to plant in corn. *Montgomery:* Early sown worthless; late sown very promising. *Sequatchie:* Condition below average on account of March freezes; most will come out, however, and it is thought will make a fair yield. *Unicoi:* Early sown fields were badly injured by freezes in March, but where the roots were not killed it has sprouted again and is growing finely; late sown was not hurt by frost. *Humphreys:* Early wheat is cut off 50 per cent. to 60 per cent.; later planting will probably average 75 per cent. *Jefferson:* Not so much injured by frosts as was feared. *Bradley:* Has the appearance of rust; yellow and spotted blades. *Lauderdale:* Too much rain in April; on the level low lands seems inclined to rust. *Sevier:* Considerably injured by February and March freezes. *Sumner:* Slightly damaged by March freeze. *Bedford:*

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Condition has improved very materially. *Benton:* Will not make over half crop, owing to warm, wet weather. *Blount:* Somewhat improved in some places; is as good as could be expected after cold weather in March. *Cheatham:* Has improved beyond expectation. *Crockett:* Injured by March freeze; since then too much rain. *Grundy:* Damaged by late freezing and spring too wet; some red rust. *Hawkins:* Difficult to make a satisfactory estimate, reports are so conflicting; prospect perhaps more hopeful. *Overton:* Damaged by late freezes. *Tipton:* Forward, but excessive rain for past month has made stalk slender. *Lewis:* Looks fine, but too thin on ground; caused by freeze. *Hancock:* Looking well, but away from water courses was damaged by the cold snap in March. *Roane:* It is feared that the rust is going to ruin wheat. *Robertson:* Revived after the March freeze, but from continued rains and cloudy weather since, the prospect now is not so good.

WEST VIRGINIA.—*Fayette:* Never looked better at this date. *Harrison:* The winter has been very favorable. If not injured by frost the crop will be a fine one. *Taylor:* Looks fine. *Monroe:* Hurt much more by the March freeze than was supposed even on the 1st of April. *Greenbrier:* In good condition. *Webster:* Looks remarkably well. *Tyler:* Never looked better. It has been necessary to pasture it in some instances. *Morgan:* Looks fine. *Grant:* Infested with some insect like the louse; looks yellow in spots. *Randolph:* Injured by frost. *Ohio:* In remarkably fine condition. The growth was retarded for a time by the freezing weather of March, but this has proved to be an advantage to the crop. *Gilmer:* Remarkably promising. Without any future set-back will make an abundant yield. *Jackson:* Very promising. *Kanawha:* Fully up to the average. *Wetzel:* Some apprehension of damage from a green bug resembling the green aphis, which has made its appearance. It attacks the blade and stalk; the blade soon turns yellow and dries up. *Roane:* A more flattering prospect never known at this date.

KENTUCKY.—*Clinton:* March damaged it and a great deal was killed outright by the recent freezes, the warm winter having induced a very tender growth. Further injury has been done by the Hessian fly. *Owsley:* In fine condition. *Davies:* Too early as yet to forecast the result of the March freezes very definitely. No accurate computation can be made before June 1. *Christian:* Condition lowered by the aphis or wheat louse and the freezing weather of March. *Washington:* Has grown finely, but is thin on the ground, especially the early sown. *Muhlenberg:* A better prospect than was reported April 1. *La Rue:* Improved from 10 to 15 per cent. by the seasonable rains of the past ten days. *Hancock:* Some fields have improved greatly since last report, others have only partially recovered from the March freeze. Some are entirely killed and the ground will be put in other crops. *Garrard:* Looks well, but is thin in some localities owing to the March freezes. *Fulton:* Prospect improved since last month. *Allen:* Very seriously injured by the frosts of March. *Anderson:* Less damaged by the severe weather of March than was thought to be the case at that time. *Boone:* Has grown considerably and is looking well, especially where sown early and where fertilizers have been used. *Edmonson:* Not in first-class condition, there having been no winter protection. *Calloway:* Not materially injured by the March freezes. *Grant:* Prospect improving, the cool, wet weather having helped it very much. *Henry:* Has partially recovered from the effects of the March freeze, but much which was not killed outright is less forward than the portion which escaped injury, making the whole very uneven. *Ballard:* Prospect reduced by excessive rains. *Metcalfe:* Was greatly damaged by the March freezes. *Lyon:* Damaged by late frosts. *Trimble:* Was greatly injured by the March freeze. *Trigg:* Improved during April; the freezing weather of March killed the root of a considerable amount, so that it is now thin on the ground. *Rowan:* Looks well. *Jefferson:* Was in a remarkably advanced state in January and February; the terrible freeze in March—when the mercury fell to 1 degree below zero—did its deadly work; the warm sunshine of April has revived it somewhat. *Graves:* Damaged somewhat by wet weather. *Barren:* Injured by March freezing. *Caldwell:* Very much improved. *Carroll:* Dam-

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aged by freezing. *Henderson:* Badly damaged; the worst prospect since 1881. *Owen:* Looks well. *Pendleton:* Fully recovered from the effect of the March freeze. *Shelby:* Has come out well since the March freeze, and is nearly or quite up to the average.

OHIO.—*Butler:* Has gained slightly during the past month. Growth retarded by the wet weather and frosts of March, so that harvest will be later than usual. *Washington:* Looks well. *Williams:* A portion of the wheat crop will be plowed under and sown to oats, being winter-killed, having had no protection by snow. *Allen:* April has been favorable for the crop, but it is thin on the ground. *Erie:* Very fine on underdrained lands, hurt by wet weather on undrained. Is generally early, and has a good growth. *Preble:* Very uneven. Many varieties have been almost entirely killed. The "Kickman" and "Gold Dust" are the best. *Seneca:* Was in the finest possible condition March 1, when wet, freezing and thawing weather destroyed the tender plant. In some localities one-half of the crop will be plowed under and sown to oats. There are some excellent fields, but they are exceptional. *Union:* Was seriously affected by the freezing weather of March and early April. *Columbiana:* Has come forward within the last month from 5 to 8 per cent. Was not so badly injured as was supposed last month. *Harrison:* Has recovered in a great measure from the March freeze and now bids fair to make a full average crop. *Jefferson:* Injured by March frosts. *Tuscarawas:* Injured on "spouty" lands by excessive rains. *Holmes:* Improving on hill lands. Lowlands, which usually produce the best crops, are being plowed under. *Vinton:* Never looked better. *Monroe:* In the finest condition ever known; covers the ground thick all over. *Van Wert:* Spotted and sickly looking owing to the unfavorable winter weather. Early sown is better. *Shelby:* Too much rain in March and April; growth injured. *Paulding:* One-fourth or more of the area sown will be put in other crops, and more ought to be. *Medina:* Looks well now. A cold snap in March did more damage than was supposed. *Jackson:* Extra good. *Logan:* Very uneven in condition; good on well-drained bottom land and on hill-sides; poor on wet, heavy ground. *Defiance:* Was sown late on dry, badly-prepared soil, but germinated and grew well during the open, warm weather of January and February; March freezing and thawing killed 40 per cent. of it. *Henry:* Injured by the heavy rain-fall of the winter, varied by spells of freezing and thawing. Many fields are being plowed up and sown to oats or planted in corn. *Mahoning:* The early part of the past month has been very trying to the crop. In poor condition on low, wet lands; on well-drained soil very good. *Hancock:* Destroyed by the wet weather. *Coshocton:* Prospect very much improved during April. *Champaign:* In lower condition than one month ago. The full effect of the frosts of March was not at that time apparent. A considerable amount has been plowed under and sown to oats. *Hardin:* A considerable area will be plowed up and sown to oats. *Adams:* Coming forward rapidly and looking well. *Hocking:* Prospect very fine. *Belmont:* Was considerably damaged by the March freeze, some entirely killed.

MICHIGAN.—*Oakland:* Looks better every day; has been improving rapidly for the past few weeks. *Kent:* Somewhat injured by frost. *Lenawee:* Improving somewhat. *Manistee:* Improving. *Montcalm:* Condition poor. Some will be plowed up and planted to corn and potatoes. *Lake:* Winter-killed to some extent. *Ionia:* Not so good as at last report in one portion of the county; in other portions no change. On the whole it has rather gone back. *Bay:* Looks very brown; the cold, dry northeast winds are doing it further harm. *Ottawa:* Weather too dry and cold. Very thin on clay soil. A warm rain much needed. *Kalamazoo:* Growing finely and in excellent condition. *Midland:* Badly killed out, and the weather is so cold and dry that it can make no improvement. *Newaygo:* The injury done by the March freezes has been more fully developed during the past month. There are a few good fields on summer fallow, but the general outlook is for nothing over three-fourths of the average crop. *Otsego:* Early sown will stand at one hundred; late sown killed by snow and ice. Growth ten days later

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than in 1889. *Washtenaw:* Nearly all killed on heavy clay soil. On lighter soils is looking well. *Mason:* Looks fine on light lands, on heavy lands injured by frost. *Barry:* Looks well in some localities, badly in others. *Gladwin:* Looks very badly freezing and thawing weather continues and the plant is heaved up by the root. *Iosco:* In fair condition. *Genesee:* In very poor condition. The estimate given in April was 50 per cent., but it is now shown to have been too high. *Monroe:* In a sickly condition. *Arenac:* Has come through reasonably well so far as winter killing is concerned, but it has not a large growth. Is now starting fairly. *Isabella:* Very uneven. *Macomb:* Much has been plowed up and sown to oats. *Saginaw:* Looks fair on sandy land. On clay and muck lands the condition is difficult to estimate. Some will be plowed up. *Allegan;* Has improved, having had plenty of moisture and some warm weather. *Eaton:* The estimate given, 40 per cent., is probably too high. A large amount is being plowed up. *Wayne:* In very bad condition. Many fields plowed up; what is left looks thin and poor. *Lapeer:* The past month has been generally favorable, but it is still spotted, uneven, and weak.

INDIANA.—*Cass:* Fifty per cent. is probably a high estimate for present condition. The prospect grows worse instead of better. *Franklin:* The luxuriant mid-winter growth was caught in its tender state by a sudden sharp freeze, 5° below zero, killing much of it where exposed, top, root, and all. *Fulton:* Badly winter killed in places. *De Kalb:* Made poor fall growth and is badly winter killed. *Owen:* Greatly helped by the continued rains. *Putnam:* Much of the ground sown to wheat in the fall will be plowed under and planted to corn. At least one-half of it should be. *Howard:* A large percentage of the crop has been plowed up. The prospect is the poorest ever known. *Harrison:* Improving; may reach 100. *Hancock:* The poorest outlook in many years. Nearly or quite one-half of the amount sown has been plowed up and planted to oats, flax, etc. The estimate given, 50 per cent., is probably too high. *Jefferson:* Was injured by freezing in March, but is coming out well. *Jay:* Will be almost a total failure in many places; many farmers are sowing the fields to oats. *Grant:* One-fourth of the entire amount sown will be plowed up and sown to oats or barley The very best fields will not make 60 per cent. *Wabash:* Good on sandy soil; badly frozen on clay lands, the roots being killed. *Floyd:* Along the Ohio River bottoms all dead; some fields frozen out on high lands. *St. Joseph:* Never looked better, except on clay and low lands. *Vermillion:* In very bad condition. The yield will be extremely small. A considerable amount plowed up. *Union:* Improved 10 per cent. since April 1. *Shelby:* Prospect much reduced since last report. One assistant reports but 15 per cent. of average condition. Forty per cent. of all sown will be plowed up and many fields be idle. Earliest sown and on the finest lands has suffered most. *Rush:* A great deal is being plowed up. *Ripley:* Looked splendidly to March 1, when it was materially injured by freezing. *Ohio:* Booming, especially where fertilizers were used. *Morgan:* The estimate given, 60 per cent., seems very low, but we are in the midst of the frozen belt, and it is doubtful whether it will reach that at harvest. *Kosciusko:* In bad condition; much winter killed on clay lands. *Jay:* The poorest prespect in many years. *Delaware:* Almost totally destroyed by the cold, freezing weather of February and March. Doubtful if we get our seed from it. *Madison:* Gave promise of a full crop until March 1, when heavy rains, followed by freezing, destroyed it root and branch. 33 per cent. of the crop has been plowed up. *Marshall:* Decrease in condition, due to the open winter, followed by the severe freezing weather of March. *Whitley:* Has done well during the month past. *Clinton:* The estimate given, 25 per cent., is probably too high. *Carroll:* Was badly frozen; what was left looks well. *White:* Nearly all killed in one section of the county; in others very good. *Tippecanoe:* So much winter killed that a great deal has been plowed under and sown to oats. *Posy:* Wherever flooded during the winter killed outright. Elsewhere condition is extremely variable, from maximum to minnimum. *Pike:* Badly damaged by the cold snap of March. It is claimed that where bone dust was used no damage was done. Many fields will be plowed under and planted in corn. *Newton:* Very little raised and that looks bad. *Lagrange:* Looks well generally.

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Early sown is exceptionally good; late seeding is rather poor. *Johnson:* In very bad condition owing to the March freeze; much is being plowed up, and more would be but for the fact that the ground has been set in timothy and clover. *Jasper:* Improved somewhat since last report. *Henry:* May be considered a failure from the effects of the March freeze, together with a small amount of damage from the Hessian fly. Many fields plowed up and will be sown to oats and flax or planted in corn. *Hamilton:* From diligent inquiry it is believed that fully one-half of the amount sown will be plowed up and planted to other crops. The remainder will not make a half crop. *Gibson:* Damaged on lowlands by excessive rains. *Randolph:* Was in good condition up to 1st of March, when many fields were entirely destroyed; many fields have been plowed up and sown to oats or planted in corn. *Bartholomew:* Some fields plowed up and sown to oats. *Clark:* Fine. *Dubois:* Improved somewhat since last report. *Hendricks:* The lightest crop ever known, so far as can be predicted just now; a large portion will be sown to clover and oats. *Jennings:* Looks well. *Lawrence:* Shows material injury from the March frosts, also from being overflowed on bottom-lands. *Marion:* Very badly injured by freezing; damage probably greater than the figures given would indicate, but we still have some hopes of improvement from favorable weather; some will be plowed up and sown to oats or planted in corn, and some that is left will not pay for harvesting. *Montgomery:* Almost entirely ruined by the severe freezing weather of March; 20 per cent. of the crop will be plowed up and planted to corn or oats. *Orange:* Materially improved since April 1; where well fertilized, condition is 100; where this was not the case it is 50 or 60 per cent. *Steuben:* Badly killed on clay soil; good on sand or gravel. *Switzerland:* Looks fine; rather above the average; some of the earliest sown was badly injured by frost, much of it being jointed at that time; medium late-sown looks splendidly. *Tipton:* About 20 per cent. of the area sown has been plowed up and planted to other crops. *Wells:* In worse condition than was supposed a month ago; 25 per cent. will be plowed up and planted in other crops. *Decatur:* Almost utterly destroyed during the first part of March; one-half plowed up for other crops, the remainder will not make more than half an average crop; after the freezing weather of March the fields turned brown and sere; fire would have run over the fields had the ground been dry; 30 per cent. of an average is the best that can possibly be given. *Perry:* Coming out very well after the freezing weather, but it is considerably thinned; some killed by standing water.

ILLINOIS.—*Sabine:* Some fields fine; others, on lowlands, a total failure. *Sangamon:* Very poor in the southern part of the county; a fair average in the north and northeast; a considerable area will be plowed up and planted in oats and corn. *Shelby:* Nearly two-thirds of the crop killed by the severe weather of March. *Tazewell:* Improved by a good rain on the 26th of April. *Washington:* Suffered severely by the late frosts, but has come out wonderfully and is spreading. *Edwards:* Not much improvement in condition. *Bureau:* Only a small amount raised, and that is badly winter-killed. *Kankakee:* Some has been plowed up and some is in extra condition. *Adams:* Very poor; 60 per cent. is a high estimate. *Bond:* Promise of a good half crop. *Christian:* One-half the acreage sown will make no return, and the remainder not over a half crop; much will be plowed up for corn if the farmers have time to do it. *Cumberland:* Was growing all winter, and in a very tender state; consequently, was badly killed by the freezing weather of March. *De Witt:* Generally good, except on low grounds where water stood during the winter. *Greene:* Almost an entire failure in some localities; in others from one-third to one-half is killed. *Hardin:* Badly damaged by March freezes; late sown promises fairly well; the damage to early sown cannot yet be estimated. *Marshall:* Very uneven on high lands; some bottom lands promise well, but the growth is short. *Moultrie:* Killed by recent freezes; thin on the ground and of short growth. *Pope:* Looks well where it is not killed or injured; some was hurt, and now is in a weak condition. *Pike:* Condition has continued to grow worse throughout the month; it now fully shows the effect of the winter's freezing. *Peoria:* Damaged by freezing late in

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spring. *Menard:* Is growing and looks well, with the exception of places where winter-killed; of these there is a considerable number, especially on flat lands, where great injury was done. *Logan:* Backward, but revived by recent rains to some extent. *Fayette:* Was splendid until March 1, when it was injured by the severe freezing; it is fair in timber lands, but badly frozen out on prairies. *Edgar:* No improvement on the report of last month; there can not be more than one acre in twenty that will make anything; the rest is utterly killed. *Douglas:* Much has been plowed up; the balance is quite light. *Champaign:* Will not make above 25 per cent. of an average crop on prairie soil; on timber or clay soil may make 75 per cent., but timber soil acreage is comparatively small. *Morgan:* Was badly killed, and has been kept back by the drought of April; recent rains have given it a start, but the crop will be uneven, foul, and full of cheat. *Knox:* A very hard winter on wheat; warm until the first of March, when severe weather set in and killed much of it. *Kane:* Very little grown in the county. *Crawford:* All wheat on clay soil is either killed or damaged by the March freezes; as nine-tenths of the land is of this kind very little will be left; that on sandy soil is usually good. *Union:* Was extra fine until the March freeze, when it was badly damaged. *Macon:* The little now standing making a fine start. *Randolph:* Looks fine in some localities; in others has been badly injured by frosts. *Wabash:* Improved somewhat on rolling ground; has gone back on low, wet land. *Stephenson:* Being greatly injured by the drying, high winds of April, with frosty nights. *Winnebago:* Greatly improved. *Vermilion:* Three-fourths killed and plowed up; prospects for the remainder not good. *De Kalb:* Presents a favorable appearance. *Clinton:* About 8 per cent. of the total area sown last fall will be plowed up and planted to corn; the damage done to the crop can hardly be estimated as yet; it may be comparatively slight. *Clark:* Looked well up to March 1, when frost half killed much of it; most of that on prairies will not yield the seed sown; it will be plowed up and planted to other grains. *Fulton:* The present month has been too dry to enable wheat to recover from the damage done to it in March. *Henry:* Improved since last report; now looks fine. *McLean:* Has improved, except the Fultz variety, which is nearly all killed; 65, the estimate given, is probably too high. *St. Clair:* So much frozen out and damaged by excessive rains that the fields will be planted to oats. *Williamson:* Very much injured by recent freezing, some entirely killed; it is spindling and thin at bottom, and not in good color. *Warren:* Looks fine. *Schuyler:* Condition greatly reduced since last report, owing to the unfavorable weather.

WISCONSIN.—*Calumet:* Not badly killed, but is thin on the ground. *Waukesha:* The little that is grown looks prime. *Marquette:* Improved 10 or 12 per cent. since last report. *Barron:* Came through the winter well; is now a good color; needs rain. *Polk:* Has had a poor start, owing to the cold, dry weather. *Rock:* Present poor condition due to scarcity of snow during the winter, which left the plant without protection until about March 1; since that date it has been injured by freezing and thawing. *Monroe:* Looks considerably better than was anticipated in consideration of the small growth it made during the fall and the small amount of protection through the winter. *Dodge:* An unfavorable outlook. *Dunn:* Twenty-five per cent. of that on prairie lands will be sown to oats, being smothered out by ice. *Buffalo:* Shows the effect of cold weather and frosty nights; if the dry spell continues the prospect will be lowered. *Dane:* Revived somewhat by a recent fine rain, but it is thin on the ground, and the surface being hard and dry it is impossible for the plant to spread.

MISSOURI.—*Wayne:* Damaged by late rain. *Scott:* Damaged 20 per cent. by cold snap in March; did not do well except on very sandy land. *Platte:* Splendid, perhaps a little too much growth. *Oregon:* Much killed, can not make more than half crop. *Moniteau:* Hurt by March freezes, but recovered greatly on strong, rich land; a failure however on much thin land and much has been plowed up. *Lincoln:* Half crop. *Howard:* Some who got 30 bushels per acre last year hope to get 10 bushels this year; too early for correct estimate. *Franklin:* Prospect is very flattering. *Pulaski*

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Some plowed up but the remaining area is as large as that of last year. *Phelps:* Improved by rain. *Livingston:* Latter part of April was little too dry for wheat; one good rain only in April. *Knox:* Revived by recent rains; crop was about "gone up." *Dade:* One hundred and five on bottom land but one-half crop on prairie. *Morgan:* Badly winter-killed. *Christian:* Doing well but is quite thin on many fields. *Perry:* Damaged by the late cold snap, especially on bottom land. *Monroe:* Genial showers and pleasant April sunshine failed to bring out wheat, as hoped; badly damaged on prairie and low land. *Texas:* Damaged by excessive rain. *Saline:* Greatly damaged, on prairie land worse; many fields being plowed; some estimate injury at 50 per cent., and all concede 25 per cent. harm done by the freeze on March 15. *New Madrid:* Now growing and may do better than anticipated. *Marion:* Considerable plowed up and sown to oats and corn; remainder is filling up; damaged by severe cold in February. *Dallas:* Much killed on upland by March freezes and sleet. *Madison:* Looks well but not thick enough. *Laclede:* Half destroyed by late freezes; remainder looks well. *Bollinger:* Can not make a full crop. *Wright:* Improved by good weather but can not make a full crop. *Adair:* Too dry, but rain came just in time; *Pike:* Nearly one-half ruined by March freezes; 23 per cent. plowed up. *Taney:* Not looking so well owing to hard, beating rains. *Vernon:* Ten per cent. more sown and in good condition.

KANSAS.—*Stevens:* Sown late and therefore small, but doing well owing to recent rains. *Saline:* A very good stand generally over the county, but later than usual. *Ellsworth:* Will probably come out all right; plowed up in one case only; with fine May will be 110. *Cowley:* Greatly improved by recent rains. *Barber:* Far above average and prospect is fine; could not look better. *Sheridan:* Looks well. *Scott:* During two windy days in April a great deal blown out of the ground and the most of it injured; a worm has worked on the roots. *Labette:* Considerable winter-killed, but remainder is excellent. *Jackson:* Reduced below average by lack of rain. *Franklin:* Went through winter all right. *Cherokee:* What there is is in best condition. *Allen:* Greatly improved by rains during the three last weeks of April. *Clark:* About two weeks late because of cool, windy weather, but stand is nearly perfect and is very promising in all other respects. *Barton:* April was fairly good for it; with no further backset crop will be larger than last year; with reasonably fair weather we will get 2,000,000 bushels, notwithstanding mishaps of the winter; 110,000 acres of good wheat and 10,000 more of poor. *Wallace:* Looked splendidly until April 7, when a hurricane from the northwest blew it out of the ground in many places. *Sherman:* Badly injured by drought. *Ottawa:* A good deal winter-killed, but none will be plowed up. *Nemaha:* Good stand, but small growth. *Mitchell:* Damaged by dry winds in April. *Logan:* Owing to light snows last winter and windy, dry spring many fields are ruined; improved by rain last week and doing well. *Dickinson:* Improved very much in April; would have been 130 but for partial failure of the soft varieties. *Montgomery:* Much winter-killed; large area plowed up, and remainder is poor. *Miami:* Needs rain, though it looks well. *Johnson:* Improved greatly by recent rains. *Pawnee:* Late sown wheat reduced average. *Lane:* Green and fresh, owing to abundant rain late in April; some was killed by dry, windy weather in March and April. *Harvey:* Very fine. *Harper:* Improved very much by good rains; earliest fields will be heading in ten days; prospect could not be better. *Russell:* Fine prospect for large harvest.

CALIFORNIA.—*San Benito:* Early sown looks badly; some killed and remainder foul with weeds, etc. Wheat sown since heavy rains is splendid for its age; a fine, even stand and vigorous growth, and bids fair for a heavy yield; outcome now uncertain. *Tuolumne:* Area was decreased by excessive rain. *Placer:* Continuous wet has nearly ruined wheat. *Tehama:* Much drowned out by heavy and continued winter rains. *Sutter:* About half the usual area, owing to extreme wet since November 17. *Modoc:* Abundant crop promised. *Lassen:* Looks fine. *Santa Barbara:* Suffered from excessive rain. *Butte:* Improved during the two past weeks.

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OREGON.—*Morrow:* Best in three years. *Gilliam:* Backward from cold spring. *Douglas:* Less than average, owing to unfavorable season; excessively wet winter and late cold spring. *Malheur:* Scarcely any sown last fall owing to total lack of rain or irrigating water.

COTTON.

The returns for May, relative to cotton, report the progress of planting and conditions affecting seeding and germination. Planting is late except in the Carolinas. In Georgia it is scarcely up to the average at his date, the delay being caused by drought, difficulty of plowing, and slow germination.

From Alabama westward serious delays have occurred from excessive rains, overflow of bottom lands, and floods from the rise of great rivers. Replanting is necessary where the seed has rotted in the ground. Great scarcity of seed is reported in parts of Tennessee.

Usually nearly seven-eights of the cotton area is seeded before the close of April. This year only three-fourths has been planted. The proportion in the several States are reported as follows: Virginia, 55 per cent.; South Carolina, 86; Georgia, 86; Florida, 87; Alabama, 85; Mississippi, 65; Louisiana, 70; Texas, 75; Arkansas, 60; Tennessee, 55. Average, 77.8 per cent.

In the Mississippi River bottom lands the fear of floods, as well as actual overflows, prevents planting, which will be actively pushed as the waters subside and the danger becomes less imminent.

The following statement of the proportion of the proposed area returned as planted on May 1 of each year since 1882 shows there is a smaller proportion in this year than any year since 1884, and that in only two years of the past nine has the planting been more backward.

States.	Proportion planted May 1.								
	1890.	1889.	1888.	1887.	1886.	1885.	1884.	1883.	1882.
North Carolina	77	74	71	70	73	70	45	35	75
South Carolina	86	86	84	80	82	80	60	75	85
Georgia	86	87	85	84	83	80	68	73	86
Florida	87	94	95	96	94	95	95	96	96
Alabama	85	87	83	88	80	85	75	83	86
Mississippi	65	88	80	84	76	85	76	82	75
Louisiana	70	89	78	83	77	82	77	81	71
Texas	75	90	76	82	84	81	80	85	80
Arkansas	60	86	77	80	75	79	70	72	76
Tennessee	57	84	76	80	77	77	52	67	77
General average	75.8	87	79.9	82.4	80	80	67	74	81

The following extracts are taken from the voluntary remarks of correspondents:

GEORGIA.—*Berrien:* Planting prevented by cold weather and terrible drought that is now upon us. *Echols:* All planted; bad stands on account of drought. *Fayette:* A little later than usual, owing to the cool weather. *Chattooga:* Will be about all planted by May 1. *Bulloch:* Though the proportion usually planted is in the ground, the usual proportion is not up, owing to protracted drought. *Cobb:*

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Season favorable for planting. *Lowndes:* Owing to excessive drought half the cotton is yet to plant. *Telfair:* Behind, owing to dry weather. *Hart:* Ahead of previous years. *Marion:* Rather ahead, owing to favorable spring. *Morgan:* Planting is unusually forward this spring and preparations better than ever known. *Thomas:* Retarded by want of moisture in the soil. *Wilkes:* Never so well up. *Douglass:* Generally planted earlier than common. *Early:* Retarded by the cold of March and the dry weather now prevailing. *Walton:* First planted up and ready to receive first working. *Taylor:* The weather having been favorable, farmers are somewhat in advance of what they usually are at this date. *Stewart:* Fully up, owing to favorable spring. *Baldwin:* Much cotton planted the middle and last of March has not come up, owing to dryness of soil. *Colquitt:* We never had so dry a winter and spring; therefore, while the preparation for planting has been thorough, cotton planting is delayed. *Dougherty:* Delayed by drought, which is still on us. *Gwinnett:* A little late, owing to late spring. *Ware:* Behind, owing to late cold in March and April. *Wayne:* Retarded to some extent by the very dry spring. *Clinch:* Dry weather has retarded planting; not half a stand yet up.

ALABAMA.—*Greene:* We usually finish planting from April 1 to 15; it is now almost May and we are about one-half done. *Marion:* Continued wet weather has put the farmer badly behind. *Marengo:* All upland cotton planted and some chopped out. The river land is being planted now. A little later than last year, owing to heavy rains. *St. Clair:* Farmers are pretty well up; cotton is coming on well now. *Shelby:* Heavy and frequent rains have greatly interfered with farm work and retarded planting, but lost time is being rapidly made up. *Hale:* Partly finished, some to plant on sandy land. Delayed by recent heavy rains. *Lamar:* Backward; a great deal of rain and cool weather. *Walker:* By two weeks the latest spring known, and land is yet in bad condition for planting. *Winston:* It has been raining the greater part of March and April; ground too wet for planting. *Cullman:* Late, owing to continued rain-fall for some two months.

MISSISSIPPI.—*Lauderdale:* About as last year; the land not prepared quite as well, owing to too much rain-fall the latter part of March followed by cool mornings the first of April. *Union:* Owing to the favorable weather the second week of April a great deal of cotton was planted. *Tishomingo:* Open winter enabled farmers to plant earlier than usual. *Chickasaw:* Retarded by a late, cold, rainy spring. *Tate:* Delayed by wet weather. *Winston:* It has rained so much that farmers have not been able to plant much. *Neshoba:* The latter half of April has been too wet for plowing, hence 50 per cent. of the proposed cotton crop will be planted in May. *Marshall:* Much retarded, owing to excessive wet weather. *De Soto:* The frequent rains that have been so beneficial to the small grain crops has greatly retarded preparations for cotton. *Attala:* An unusually wet, backward spring, yet planting well up. *Carroll:* Retarded, owing to heavy rains; 20 per cent. of crop will have to be replanted. *Claiborne:* Delayed, caused by continued rains. *Grenada:* Rain, rain. However, two weeks' good weather will restore things to the usual status. *Holmes:* Somewhat backward on account of wet weather. *Lawrence:* Perhaps two weeks late. *Montgomery:* Retarded by heavy and continuous rains during latter half of April. *Newton:* Delayed on account of the unfavorable weather. *Yazoo:* Retarded by too much rain in past two weeks. *Le Flore:* At least three weeks later than usual, owing to so much rain-fall. *Monroe:* Retarded by wet weather. *Perry:* Spring favorable for planting; the entire crop nearly in. *Simpson:* Delayed somewhat on account of frosts and freshets. *Tippah:* Is being planted late; too much rain. *Lee:* Fifteen days behind the average. *Copiah:* Retarded by recent rain-fall.

LOUISIANA.—*Bienville:* Earlier than in former years. *Avoyelles:* Backward on account of a freeze, which killed that already up; also on account of overflow. *St. Tammany:* Entire crop would have been planted by May 1, but was delayed, owing to wet weather. *Bossier:* High waters and rain have stopped planting to a great extent. *Iberville:* Owing to the overflow much will not be planted until the water recedes. *East Carroll:* About sixteen days late; cold spring and fear of overflow.

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Lincoln: Too much rain; some planting over. *West Feliciana:* Retarded by remarkably wet spring. *Madison:* Twenty to fifty days later than last spring, owing entirely to overflow, and a loss in area of 40 per cent.; planting on inundated land bids fair to begin about May 10. *Iberia:* About finished; good stands up.

TEXAS.—*Cameron:* No rain along the Rio Grande for six months, in consequence of which nothing has been planted to date. *Gillespie:* The bulk of crop will be planted by the 25th instant. *Lampasas:* There is never much cotton planted here until the 1st of May and after. *Fannin:* The low percentage is due to excessive rains. *Franklin:* More backward than usual, owing to heavy rains. *Lamar:* Two-thirds planted; delayed in consequence of rain; great fears are entertained that planting will have to be all done over. *Wharton:* Recent storms of wind and rain did 20 per cent. of injury and will necessitate replanting to that extent. *Marion:* Retarded by wet weather. *Morris:* Backward on account of excessive wet weather. *Panola:* Retarded by continued rains. *Parker:* Behind; too much rain. *Medina:* Some delayed planting because the soil was too dry; now for the past ten days nothing can be done on account of wetness. *Bosque:* Cold spring and wet ground has retarded planting. *Henderson:* Backward, owing to destructive and washing rains. *Bastrop:* At least fifteen days late. *Denton:* Delayed by excessive wet weather. *De Witt:* Much replanting will be necessitated by late heavy rains. *McCulloch:* Excess of rain; not more than half planted is up, and much will have poor stand. *Menard:* Would have been all planted had it not been for the rains. *Van Zandt:* Season unusually rainy, making replanting necessary. *Bee:* Much cotton has not yet been planted, as there is so much new land opened. *Comal:* Later than usual; first drought, then excessive rains caused delay. *Hill:* Weather for two weeks past wet and cold, and much cotton will have to be replanted. *Johnson:* Cold weather and heavy rains have seriously injured stands. *McLennan:* Unusually delayed by April rains. *Taylor:* Late, owing to dry weather first, then excessive rains latter part of April. *Rockwall:* Looking bad, owing to excessive rains; may have the greater part to plant over. *Robertson:* Wet weather causes delay. *Live Oak:* Is well up and growing rapidly. *Limestone:* On account of continued rains considerable cotton will have to be replanted. *Coleman:* Much already planted has been lost in consequence of too much rain and cold nights, and we are compelled to replant. *Brazos:* Nearly planted, but owing to overflow in the bottoms and rain it is badly in the grass. *Matagorda:* One-tenth will have to be replanted, owing to cold snaps and excessive rains of past few weeks.

ARKANSAS.—*Ouachita:* Delayed by too much rain. The outlook now is that the remainder will be planted late. *Cleveland:* Badly behind, owing to too much rain. *Stone:* Owing to rain, farmers are about a week late. *La Fayette:* Not planted, owing to cold backward weather. *Greene:* Very late, owing to so much rain; just begun; bulk yet to plant. *Baxter:* Planting prevented by the large amount of rain-fall. *Columbia:* Would have been completed but for so much rain. *Conway:* Later than for several years, owing to almost daily rains for the past month. *Phillip:* Will be much later than usual. *Carroll:* Delayed by a general rain; will be all planted by May 10. *Fulton:* Much retarded by wet spring. *Johnson:* But little land could be broken or planted in May, on account of continued heavy rains. *Pope:* Much cotton will have to be replanted, the seed having rotted in the ground. *Benton:* A little late, on account of wet weather. *Franklin:* An unusual amount of rain; farmers are planting in the mud as fast as possible. *Montgomery:* Set back by cold, wet weather during April. *Nevada:* Behind on account of tremendous rain-fall. *Prairie:* Ground generally so wet that a large part of the cotton ground is now unplowed. *Scott:* Hindered by unusual rain-fall. *Ashley:* Behind; unusual rain-fall.

TENNESSEE.—*Carroll:* Lateness in planting will make a late frost necessary to insure a full crop. Farm work unusually late, owing to extreme wet weather. *Greene:* Too much rain has retarded planting somewhat. *Polk:* Retarded by excessive rains. *Clay:* The small amount done is caused by the rain. *Fayette:* There is a tendency to plant more corn, caused by the scarcity of good cotton-seed. *Gibson:* Delayed four

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weeks or more by excessive wet weather. *Lincoln:* Delayed by rain. *Bedford:* Backward, on account of very heavy rains. *Benton:* At least 50 per cent. behind, owing to wet weather. *Crockett:* Prevented by constant rain. *Tipton:* Would have been nearly done, but for almost constant rains the past three weeks. *Lewis:* But little planting, on account of scarcity of seed.

SPRING PLOWING.

In spite of the generally open winter the amount of spring plowing finished on May 1 was somewhat less than usual. An excess of rain-fall during the latter part of March and the month of April in almost all the principal agricultural districts of the country delayed farm work, plowing especially. Our annual returns for a number of years show that the proportion usually finished at this date is about 77 per cent., while the returns of the present month make the amount now done only 75 per cent. of the proposed area. The deficiency would have been greater but for the mild weather during the early season, permitting more than the usual amount of farm work prior to April 1 in the South. During April much less than the average was accomplished in almost every section. In New England, besides an excess of rain-fall during the past month, it is stated that the lack of snow covering during the winter allowed the frost to sink deep into the earth, rendering the soil unusally cold and contributing to the backwardness of spring work. Along the South Atlantic coast, every State except Florida shows slightly more than the usual amount done, while the States of the Gulf coast and lower Mississippi Valley return materially less than usual. Excessive rains and overflows of bottom-lands from river floods have caused much delay, and may result in materially shortening the arable area. Farm work in Tennessee, the Ohio Valley and Lake States is even more backward from similar excess of precipitation. In the upper Mississippi and Missouri Valleys conditions have been somewhat more favorable, and spring work has progressed somewhat more rapidly than usual, but on the Pacific coast in the Rocky Mountain districts the severe winter and wet spring greatly retarded plowing, and much less than usual has been accomplished.

Excess of rain is the prime cause of delay in almost every State where plowing is behind, but occasionally there are districts, mainly west of the Mississippi river, where drought has made the soil too dry and hard to be worked. Some complaint is made that plowing is more difficult than usual owing to the fact that in many districts there was no freezing weather to assist in softening and pulverizing the soil, making it harder to bring it to proper tilth this spring than usual. The action of the frost in penetrating and disintegrating the earth is missed.

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MOWING LANDS AND PASTURES.

The winter was unfavorable to grass throughout New England, the roots suffering more than usual from freezing and thawing on account of lack of snow protection. On bare fields the frost sunk deep and the sod was injured by the heaving. After an open winter the spring has been cold, wet, and backward, and meadows and pastures have made a slow start and growth. New York reports damage in a less degree from similar causes, with pasturage late from unfavorable conditions during April. Warm weather and forcing sunshine, however, will soon give luxuriant growth, the earth being well filled with moisture. Along the Atlantic coast, as far north as portions of Pennsylvania, the grass has been green and growing throughout the winter, and in some counties, as in Blair, Pa., stock were placed on pasture as early as May 1.

In the South grass is rank in growth, though in many places it has suffered from excess of rain and overflows. The Western States report both meadows and pastures in fine condition, a moist spring following an unusually open winter. In some localities growth was maintained throughout the winter, the only injury being a slight checking of development by the cold weather early in March. West of the Mississippi and north of the Missouri Rivers the spring has been dry and grass land has suffered somewhat. On the Pacific coast condition is generally good, the season having been characterized by abundant moisture.

TEMPERATURE AND RAIN-FALL.

The monthly compilations of the Signal Service make it possible to examine the meteorological conditions prevailing in every section of the winter-wheat belt from the time of seeding to the beginning of spring growth. A knowledge of these conditions is necessary to a proper understanding of present condition of the crop, as harvest results depend very largely upon the season between germination and the starting of spring growth. The science of agricultural meteorology is yet but little understood, and the growth and development of a crop of winter wheat affords perhaps the best opportunity for studying it. The proper conditions of heat and moisture must be present at seeding time to insure prompt and perfect germination, freezing weather accompanied by snow protection are necessary during the winter months, and mild spring weather with an absence of freezing and thawing are needed to insure good growth and abundant yields. The effect of the absence of any of these seasonal conditions may easily be found by an examination of the final test of yields per acre.

During October of last year temperature was from 4 to 6 degrees below the normal in every section of our winter-wheat belt except the Pacific coast, where it was slightly above. This cool weather, which

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in itself was not unfavorable, was accompanied generally by a deficiency of rain-fall, ranging from .8 of an inch in the lower Lake region to more than 6 inches on the Middle Pacific coast. The striking peculiarities of the winter of 1889–'90 began to be manifest in November. Temperature was above the normal in the region of the Great Lakes and on the Atlantic and Pacific coasts, while rain-fall was in excess in all sections of principal production. The record for December shows remarkable variations from the conditions which years of observations have confirmed as normal. Temperature was from 10 to 15 degrees above the average in all sections of the country except the Pacific coast, where it was slightly below. The average temperature for the month was not only much above the normal, but in some sections, as in the Ohio, upper Mississippi and Missouri Valleys, it was higher than the actual temperature for November. During this warm month rain-fall was generally deficient except on the middle Pacific coast, where there was an excess sufficient to do much damage.

January presented characteristics in temperature very similar to the remarkable variations of December. The country east of the Rocky Mountains enjoyed an abnormally high temperature, while west of that system the thermometer registered from 5 to 6 degrees below the average of a long series of years. During this remarkable month the temperature in the South Atlantic and Gulf States was higher than it is usually during November, and, as a consequence, vegetation, untouched by frost, was still green and growing. As far north as Washington flowers bloomed in the open air. There was an abundance of rain-fall, and the development of the wheat plant in midwinter was without precedent in recent years. High temperature continued throughout February, with the same exception, the Pacific coast, noted during January. The variations in the excess above the normal were less than during the previous month, the range being from 2 to 6 degrees. Rain-fall was very nearly normal, the only variations of more than an inch being 2.6 inches above in the Ohio Valley and 1.2 below on the North Pacific coast.

The remarkable mildness of the winter and general abundance of moisture induced in the many wheat districts a continuous growth of the plant, and as a consequence the advent of March found it green and full of sap, and without snow protection. The month came in with what was really the only severe weather of the season, and the tender plants, exposed to freezing weather and frosty blasts, were badly injured generally throughout the whole wheat belt. The record shows that, except on the Atlantic coast and in the Rio Grande Valley, the month was below the normal in all wheat-growing districts. In the upper Mississippi Valley it was 4.4 degrees colder than usual, 2.7 in the Ohio Valley and 2.8 in the Missouri Valley.

The complete record for April is not yet available, but the advance reports show that the month was generally cool, with few startling

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departures from the normal standard, and with a quite general excess of rain-fall.

The following statements are presented showing in detail by months the average temperature and rain-fall of each Signal Service district:

Temperature.

Districts.	October.		November.		December.		January.		February.		March.	
	For several years.	1889.	For several years.	1889.	For several years.	1889.	For several years.	1890.	For several years.	1890.	For several years.	1890.
	°	°	°	°	°	°	°	°	°	°	°	°
New England	51.8	48.5	41.5	43.8	31.3	36.8	25.4	31.6	27.5	32.1	32.1	33.5
Middle Atlantic States	58.8	53.5	46.6	48.2	37.0	45.5	32.7	43.6	36.5	43.6	40.0	41.2
South Atlantic States	66.8	62.8	55.6	57.6	49.1	57.0	47.7	57.2	51.8	58.0	54.1	54.4
Florida Peninsula	76.0	72.8	69.0	70.2	64.6	67.4	63.5	69.7	66.5	69.4	68.0	65.4
Eastern Gulf States	68.7	65.5	56.1	55.5	50.7	61.2	49.2	59.6	55.1	60.8	58.0	56.6
Western Gulf States	68.5	67.1	56.8	53.0	50.3	63.6	43.8	55.3	52.3	57.5	57.7	57.0
Rio Grande Valley	75.6	75.6	65.5	63.7	60.6	71.2	57.9	68.4	63.3	68.8	69.0	70.4
Ohio Valley and Tennessee	59.4	54.5	45.5	45.3	37.1	51.6	33.9	44.8	39.5	46.4	44.6	41.9
Lower Lake Region	52.5	46.2	39.6	40.8	29.8	39.2	23.9	34.4	27.4	33.4	31.3	30.6
Upper Lake Region	48.3	43.7	34.1	35.6	24.0	33.4	16.2	24.8	19.3	25.5	25.6	24.8
Extreme Northwest	42.2	44.6	24.2	24.6	9.0	15.2	-2.4	-2.7	5.3	3.2	20.2	19.8
Upper Mississippi Valley	54.0	50.0	38.9	36.6	27.1	41.1	19.7	27.0	26.8	31.4	35.9	31.5
Missouri Valley	51.2	50.8	35.0	32.7	22.4	34.6	13 7	15.1	19.2	21.3	33.7	30.9
Northern Slope	45.4	49.8	32.9	32.0	23.9	28.8	15.7	10.1	21.9	18.1	33.0	33.6
Middle Slope	54.7	54.7	40.8	36.6	31.0	42.4	28.3	33.2	35.3	38.0	42.3	43.9
Southern Slope	63.0	63.8	50.5	46.0	43.0	56.7	37.5	44.8	46.0	48.2	52.5	54.0
Southern Plateau	59.9	61.7	48.2	47.6	42.7	48.3	41.2	42.3	46.4	47.2	51.1	53.0
Middle Plateau	50.0	52.4	36.7	36.7	32.0	36.4	.....	.....	33.0	34.0	42.5	39.2
Northern Plateau	48.0	54.1	37.6	39.0	32.6	31.2	25.6	20.4	31.5	29.3	42.0	38.4
North Pacific Coast Region	51.5	54.8	45.0	47.2	42.8	39.5	39.0	33.5	40.0	37.3	45.3	43.3
Middle Pacific Coast Region	61.0	61.6	53.3	55.7	49.7	48.2	47.4	42.7	50.4	47.2	54.7	52.4
South Pacific Coast Region	62.4	65.8	58.0	61.6	56.0	53.6	53.0	50.0	54.4	54.2	56.6	57.0

Precipitation.

Districts.	October.		November.		December.		January.		February.		March.	
	For several years.	1889.	For several years.	1889.	For several years.	1889.	For several years.	1890.	For several years.	1890.	For several years.	1890.
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
New England	4.07	4.30	4.37	6.28	3.61	2.75	4.43	2.92	4.31	3.11	4.40	7.11
Middle Atlantic States	3.22	4.61	3.30	5.61	3.47	0.82	3.73	1.72	3.41	3.19	3.99	4.32
South Atlantic States	4.51	2.39	3.45	3.76	4.33	0.21	4.42	0.98	3.70	1.95	4.74	2.37
Florida Peninsula	4.36	2.38	2.43	3.47	2.61	0.14	3.03	0.54	2.40	1.52	2.32	1.66
Eastern Gulf States	3.08	0.92	4.44	5.12	5.16	0.58	5.53	2.12	5.01	3.21	6.55	3.10
Western Gulf States	3.51	0.99	4.07	7.18	3.96	0.52	3.32	4.68	4.07	4.53	3.53	4.38
Rio Grande Valley	3.86	0.86	1.66	1.14	1.76	0.10	1.52	1.14	1.34	0.90	1.33	0.18
Ohio Valley and Tennessee	2.97	1.64	3.81	5.53	3.75	1.67	4.61	6.29	4.32	6.98	4.56	6.32
Lower Lake Region	3.17	2.31	3.17	3.56	2.91	3.27	2.65	3.91	2.73	3.34	2.75	2.54
Upper Lake Region	3.49	1.04	2.47	2.65	2.16	2.64	1.94	2.77	1.90	2.36	2.23	2.08
Extreme Northwest	1.47	0.09	0.59	0.39	0.70	0.94	0.67	0.73	0.77	0.37	0.67	0.58
Upper Mississippi Valley	3.09	1.42	2.34	2.65	2.10	1.30	1.86	3.47	2.22	2.04	2.34	2.60
Missouri Valley	1.81	0.86	0.93	0.93	0.82	0.78	0.67	0.82	0.76	0.38	1.53	1.38
Northern Slope	0.92	0.57	0.54	0.48	0.71	0.35	1.07	0.46	0.65	0.57	0.79	0.84
Middle Slope	1.53	3.09	0.65	1.04	0.74	0.08	0.47	1.14	0.67	0.28	1.14	0.14
Southern Slope	2.64	1.98	1.27	1.57	1.31	0.01	0.56	0.76	1.16	0.78	1.16	0.21
Southern Plateau	0.74	0.79	0.85	0.37	1.29	2.27	0.76	1.29	1.38	1.07	1.02	0.51
Middle Plateau	1.04	1.64	1.10	0.57	1.04	3.04	3.56	2.28	0.87	1.44	1.07	1.53
Northern Plateau	1.32	2.56	1.39	0.70	2.53	3.00	2.60	2.23	1.86	3.14	1.26	2.71
North Pacific Coast Region	5.42	6.08	6.95	5.50	9.18	6.52	9.15	11.02	9.13	7.91	5.81	6.13
Middle Pacific Coast Region	1.06	7.24	2.83	3.14	4.54	10.29	4.60	7.59	3.53	4.30	2.93	4.62
South Pacific Coast Region	0.44	4.54	1.24	0.74	2.80	11.76	2.35	5.31	3.11	1.53	2.11	0.54

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For convenience in examining the record of the six months in the wheat-growing belts a summary has been prepared showing the excess or deficiency in temperature and rain-fall by months, with a further showing of the aggregate rain-fall of each district during the whole period. This last statement shows that up to April 1 there was a very excessive rain-fall on the middle Pacific coast, and an equally marked deficiency in the South Atlantic and Eastern Gulf States.

Variations in temperature and rain-fall.

Districts.	October.		November.		December.		January.		February.		March.	
	Temperature.	Rain-fall.	Temperature.	Rain-fall.	Temperature.	Rain-fall.	Temperature.	Rain-fall.	Temperature.	Rain-fall.	Temperature.	Rain-fall.
	°	*In.*	°	*In.*	°	*In.*	°	*In.*	°	*In.*	°	*In.*
Middle Atlantic States	−5.3	+1.39	+1.6	+2.31	+ 8.5	−2.65	+10.9	−2.01	+7.1	−0.22	+1.2	+0.33
Rio Grande Valley	0.0	−3.00	−1.8	−0.52	+10.6	−1.66	+11.4	−0.38	+5.5	−0.44	+1.4	−1.15
Ohio Valley and Tennessee	−4.9	−1.33	−0.2	+1.72	+14.5	−2.08	+10.9	+1.68	+6.9	+2.66	−2.7	+1.77
Lower Lake region	−6.3	−0.86	+1.2	+0.39	+ 9.4	+0.36	+10.5	+1.26	+6.0	+0.61	−0.7	−0.21
Upper Lake region	−4.6	−2.45	+1.5	+0.18	+ 9.4	+0.48	+ 8.6	+0.83	+6.2	+0.40	−0.8	−0.15
Upper Mississippi Valley	−4.0	−1.67	−2.3	+0.31	+14.0	−0.80	+ 7.3	+1.61	+4.6	−0.18	−4.4	+0.28
Missouri Valley	−0.4	−0.95	−2.3	0.00	+12.2	−0.04	+ 1.4	+0.15	+2.1	−0.38	−2.8	−0.15
North Pacific coast	+3.3	+0.66	+2.2	−1.45	− 3.3	−2.66	− 5.5	+1.87	−2.7	−1.22	−2.0	+0.32
Middle Pacific coast	+0.6	−6.18	+2.4	+0.31	− 1.5	+5.75	− 4.7	+2.99	−3.2	+0.77	−2.3	+1.69

AGGREGATE RAIN-FALL.

Districts.	For a series of years.	For 1889–'90.	Excess or deficiency.
	Inches.	*Inches.*	*Inches.*
New England	25.19	26.47	+ 1.28
Middle Atlantic States	21.12	20.27	− 0.85
South Atlantic States	25.15	11.66	−13.49
Eastern Gulf States	29.77	15.05	−14.72
Western Gulf States	22.46	22.28	− 0.18
Rio Grande Valley	11.47	4.32	− 7.15
Ohio Valley and Tennessee	24.01	28.43	+ 4.42
Lower Lake Region	17.38	18.93	+ 1.55
Upper Mississippi Valley	13.95	13.48	− 0.47
Missouri Valley	6.52	5.15	− 1.37
North Pacific Coast	45.64	43.16	− 2.48
Middle Pacific Coast	19.49	37.18	+17.69

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SUMMARY OF RESULTS.

Table showing condition of winter grain and progress of spring planting.

States and Territories.	Average condition, May 1, of—					Cotton-planting.		Spring plowing.	
	Winter wheat.	Winter rye.	Winter barley.	Meadows and mowing-land.	Spring pasture.	Proportion of proposed crop area already planted (May 1, 1890).	Proportion usually planted by May 1 (in an average year).	Proportion of plowing work already done (May 1, 1890).	Proportion usually done by May 1 (in an average year.)
Maine	.....	.....	.....	98	94	.....	.....	45	46
New Hampshire	.....	.....	.....	95	93	.....	.....	46	48
Vermont	.....	.....	.....	90	88	.....	.....	46	45
Massachusetts	.....	.....	.....	95	97	.....	.....	52	50
Rhode Island	.....	.....	.....	99	99	.....	.....	66	65
Connecticut	99	98	.....	95	98	.....	.....	63	60
New York	91	91	93	90	92	.....	.....	60	58
New Jersey	99	99	.....	97	99	.....	.....	70	70
Pennsylvania	96	98	95	96	96	.....	.....	68	68
Delaware	99	99	.....	98	97	.....	.....	80	75
Maryland	98	99	.....	98	98	.....	.....	82	80
Virginia	95	95	95	97	97	55	55	88	82
North Carolina	80	90	94	92	92	77	75	89	83
South Carolina	70	85	.....	90	94	86	85	89	85
Georgia	65	85	81	93	89	86	87	88	86
Florida	.....	.....	.....	81	85	87	95	90	93
Alabama	70	93	.....	87	92	85	87	87	88
Mississippi	73	95	.....	91	92	65	87	88	88
Louisiana	.....	.....	.....	96	97	70	88	91	90
Texas	67	75	73	97	97	75	89	86	92
Arkansas	91	95	.....	93	96	60	82	80	88
Tennessee	82	87	79	97	97	57	80	78	88
West Virginia	95	98	.....	98	98	.....	.....	62	70
Kentucky	92	97	90	97	97	.....	.....	63	75
Ohio	82	91	90	95	95	.....	.....	62	72
Michigan	73	90	75	85	88	.....	.....	61	65
Indiana	63	88	88	94	90	.....	.....	64	71
Illinois	64	89	72	95	93	.....	.....	66	70
Wisconsin	.....	.....	.....	87	90	.....	.....	75	70
Minnesota	.....	.....	.....	86	87	.....	.....	73	70
Iowa	.....	.....	.....	91	92	.....	.....	75	70
Missouri	82	91	81	96	95	.....	.....	70	72
Kansas	92	95	92	98	96	.....	.....	75	75
Nebraska	.....	.....	.....	93	92	.....	.....	72	70
California	82	95	81	94	97	.....	.....	78	85
Oregon	95	99	90	96	95	.....	.....	78	82
Nevada	.....	.....	.....	95	94	.....	.....	74	80
Colorado	.....	.....	.....	97	98	.....	.....	77	75
Arizona	.....	.....	.....	90	90	.....	.....	80	82
Dakota	.....	.....	.....	90	91	.....	.....	71	70
Idaho	.....	.....	.....	88	.....	.....	.....	.....	68
Montana	.....	.....	.....	88	90	.....	.....	60	68
New Mexico	.....	.....	.....	97	97	.....	.....	78	85
Utah	.....	.....	.....	95	93	.....	.....	76	85
Washington	.....	.....	.....	97	94	.....	.....	.....	80
Wyoming	.....	.....	.....	93	98	.....	.....	.....	75
General average	80.0	93.5	84.6	92.9	93.0	75.8	86.0	75.0	76.6

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NOTES FROM REPORTS OF STATE AGENTS.

MAINE.

The season is ten days later than last year; in some sections it is fully two weeks later. April has been a cold dry month, with rough, harsh winds, and a general snowstorm on the 27th of the month. The condition of meadows and land in permanent grass is fully an average but later than usual. Pastures are also late. The proportion of plowing already done is very small. The early planting of potatoes is becoming a fixed system; the beetle and rust are thus avoided, a better price for the product obtained, and the land can be cleared earlier. This also prevents the necessity of using poisonous sprayings, against which there is a growing prejudice.

NEW YORK.

The condition of wheat and rye has improved slightly, and the percentage of condition for May 1 is higher than for April 1. But winter grain has rarely ever been more backward than it is now. April was not favorable for its growth, as it was cold and dry, with high winds, which made a crust on the surface of the ground. Rains the last of April and the first of May have, however, made a decided change for the better. The same is true of meadows and pastures. Farm work is about ten days earlier than an average, but the growth of grass has not kept pace with the plowing season, on account of the cold, dry weather, which, while favorable for farm work, was unfavorable for the growth of grass.

PENNSYLVANIA.

The condition of winter wheat is not materially changed from that of last month. While most of the counties report wheat and rye as "excellent," "never looked better," etc., enough of the low wet lands report a decreased percentage to cut the State average down. Owing to excessive rains, spring pasture and mowing lands are somewhat below the standard. Spring planting is more advanced than usual in consequence of the open winter.

VIRGINIA.

The weather has been open and favorable for plowing, but not as favorable to the growth of plants as was desired. The condition of wheat is about the same as April 1. Rye holds its own. Meadow lands and pastures are variable, but generally very good; the growth, however, is not up to the promise of six weeks or two months ago. Plowing is much more advanced than for many years; in a large portion of the State it is finished.

NORTH CAROLINA.

The mild winter and warm weather have advanced all kinds of farm work, but the fly, louse, and freeze in March have reduced the average condition of wheat.

GEORGIA.

Wheat is greatly injured by rust. Oats were materially injured and many fields ruined by the severe cold of March 1. They are now in imminent danger of being cut off by the prevailing drought.

MISSISSIPPI.

From April 1 to 20 the weather was exceptionally fine for all farm work and plant growth. Corn was up, showing a good stand, also cotton, much of which had been worked out in the delta, where the land was exempt from overflow. During the last

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week of April a very heavy rain-storm occurred, which submerged all bottom lands for four or five days, causing a great deal of damage and the replowing and planting of crops in that portion of the State.

LOUISIANA.

Cotton planting in the northern portion of the State has been somewhat delayed by cool and rainy weather. Vast tracts of alluvial lands are now under water from the effect of various crevasses or by backwater.

The acreage of rice will be much larger this season, especially in the western section of the State. There will be no increase in the river counties. Breaks in the levees and backwater have already caused a large amount of damage in the sugar-growing districts. Sugar-cane outside of the overflowed portion of the State is in excellent condition, promising more than a full average crop. Very little, if any, corn will be planted on land that has been overflowed, as it almost invariably is eaten up by worms.

ARKANSAS.

The weather for the past month has been unusually inclement; the amount of rain-fall, largely in excess of that of any corresponding period for several years past, has resulted in keeping our water-courses at flood tide the most of the time for the past six weeks. The larger streams and their tributaries overflowed the adjoining lowlands several times during that period, causing loss of crops already planted, fencing, and some live-stock, and greatly retarding farm-work. At best, the season is late, and most of our farmers who have not been delayed by floods have suffered great inconvenience by reason of the continuous rain-fall of the past month. However, crops that have been planted under fairly favorable circumstances are coming forward as rapidly as can be expected. Wheat, rye, and grass are in fairly good condition. Corn and cotton planting is being pushed to the fullest extent.

KENTUCKY.

Much of the wheat that was supposed to be killed by the March freeze now looks well, as the roots were not destroyed. Pastures also look well. On account of the excessive rains, the amount of spring plowing already done is small.

OHIO.

Farm work is backward, but recent rains have put the ground in good working condition, and seeding is progressing rapidly. Although the March freeze damaged wheat more than was expected April 1, the past month was generally favorable for its growth and it has recovered somewhat. In the northwestern counties an unusually large area has been plowed under, but in the southern and southeastern portions of the State the condition is the same as on April 1, and in the northeastern section the condition is advanced.

MICHIGAN.

Wheat on summer-fallowed and early plowed sandy lands is in fairly good condition, but on late sown and heavy lands it is very poor. The month of April has been very favorable for meadows and pastures. Many fields where but little grass, particularly clover, seemed to be alive last fall is showing a fair condition.

INDIANA.

The condition of winter wheat is very poor. The warm winter produced unusual growth, with a very tender stalk, which suffered much from the sleet and freeze of March. In many instances the root was destroyed. Good growing weather through May will perhaps make half a crop. Pastures late on account of the late cold rains; spring plowing also late for the same reason. Meadows in good condition.

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ILLINOIS.

The present condition of winter wheat shows that the extent of injury to the crop by the March freeze was greater than seemed apparent on April 1. There has been a further loss by floods in those counties where rains have been excessive, in the destruction of the crop on bottom lands, much of which had escaped serious damage by frost. In many of the winter-wheat counties a large acreage is being plowed up and put in other crops. The present outlook is not promising for more than two-thirds of an average crop. Winter rye is about the same in condition as reported on April 1. More than the average amount of spring plowing has been done in the northern portion and about the usual amount in the central section, but in the southern part of the State farming operations have been greatly delayed on account of excessive rains.

WISCONSIN.

The rain-fall in April being light, the ground is so dry that plowing is very difficult, and the growth of wheat, rye, and barley is slow.

MINNESOTA.

The farmers improved the fine weather which continued throughout the whole of April by seeding and by plowing a large breadth of land for their corn, buckwheat, and root crops. The seeding of English grain was mostly finished by the 25th of April. The soil was in excellent condition for all agricultural work on the farm.

IOWA.

Spring work is well advanced, but vegetation of all kinds is backward on account of the very dry spring.

MISSOURI.

The condition of winter wheat has fallen somewhat during the month just passed. In those sections where the condition was highest one month ago, the northwest and southwest, there has been a slight improvement, while in other parts of the State there has been a considerable falling off. In northeast and central Missouri, where the wheat suffered most from freezing, there was too little rain-fall during the month for the growth of the plant. A considerable area has been plowed up, principally in these sections. Meadows and spring pasture are in fair condition. Insufficient rain in the northern part of the State has retarded growth to some extent. Cotton planting has been greatly delayed and but little of the crop is in the ground as yet.

KANSAS.

With few exceptions the month of April was favorable to the growth of both winter and spring wheat. Many fields appearing to be badly damaged in March by freezing and by winds are rapidly recovering since the late rains and promise a fair stand.

CALIFORNIA.

Owing to incessant rains and floods during the winter in certain localities and drought in other sections, the condition of winter grain does not indicate more than three-fourths of a normal crop. Plowing has been very much delayed and in consequence of the baked condition of the soil it is almost impossible to pulverize it thoroughly. The tendency throughout the State is to raise more fruit and less grain, but the varieties of fruit differ with the several sections. The peach and apricot orchards have suffered terribly by the wet weather, as the roots seem to be very susceptible to its influence, while plums, prunes, and pears have escaped almost unhurt. In some of the southern counties there is a boom in raisin planting, as this has been a very lucrative crop. Oranges and other citrous fruits are also planted in many sections.

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WAGES OF FARM LABOR.

It was thought possible that the wages of farm labor might be affected somewhat by the low prices of certain farm products, especially of corn and its products. On this account the investigation has been made, although only two years have elapsed since the last inquiry. It does not appear that wages have been much affected as yet by low prices. It is evident that the industries of the country are still in a comparatively prosperous condition, and that there is not a very large proportion of labor unemployed. Everywhere there is a pressure of competition with farm labor, withdrawing laborers from rural engagements and leaving to the remainder fair wages. In some places farmers complain that the more intelligent and skilled are withdrawn, and that they are compelled to pay higher wages than they can afford.

Farm wages in New England are slightly advanced as compared with the rates two years ago. Farm laborers prefer to go to the cities and find employment in cotton factories, machine works, shoe shops, or in other business. In northern districts lumbering, the ice business, and ship-building on the coast compete with farm labor. There is much complaint of scarcity of intelligent labor. Some report an abundance of foreign labor, which is characterized by many as unreliable. Laborers of this class require too much instruction and supervision.

In New York a similar scarcity exists. In some districts it is estimated that laborers obtain about one-third more wages in other trades. This is natural and equitable, as the expenses of living are higher in towns. Farmers try to do their work with as little hired labor as possible, to avoid the expense of skilled labor and the annoyance of unskilled. They say that a majority of the laborers are looking for an "easy job." The demand for labor on railroads, at the oil wells, cement works, and in factories withdraws the more efficient laborers from the farms.

In New Jersey the usual manufacturing demand for labor is supplemented by the requirements of railroads, of watering places, of the oyster and clam business, and that of various fisheries.

Various causes of scarcity prevail in Pennsylvania. The coal and oil regions compete strongly, as do the furnaces and rolling-mills, saw-mills, bark-mills, and various lumbering operations. Farmers say they can not afford to pay the wages which labor commands in these industries. Of course the feeding of the multitude otherwise makes a better demand and higher prices for agricultural products, with the limitation of the pressure of Western competition in the staples that can be readily transported long distances. Not a few counties, however, report a supply of labor equal to the demand.

In Delaware and Maryland there is also competition from factories, and from the oyster business on the eastern shore of Maryland, and

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from lumbering in the western mountain area. The Howard correspondent says: "It is abundant, but more worthless every year."

It is gratifying to note the activity of the demand for labor in mining and manufacturing, fisheries and other industries, which has increased the rate of wages in Virginia, and made a demand for farm products. In some counties there is still a supply of farm laborers. In others a scarcity is noted. The tendency among young colored men to seek summer employment in Northern States is noted. Some farmers complain of its cost and decry its efficiency.

In the cotton States very few laborers are employed during the year at given rates in money. Those working on plantations prefer to work at shares of produce, under contracts greatly varying in terms. On the Atlantic coast there is a tendency to emigration westward, and proceeds of share labor greater. The turpentine business is moving down the coast and westward, causing the removal of able-bodied men from North Carolina, while those who remain, sometimes the women left behind, attempt to carry on farms, often running into debt with disastrous results. Some correspondents report transient laborers insufficient, threatened with starvation, and ceasing labor on receipt of supplies till they are exhausted. In South Carolina railroad enterprises and phosphate mining attract labor by higher remuneration. There is evidence of increased demand for labor in Georgia, Alabama, and Tennessee, in iron and coal mining, in furnaces and factories, and in other enterprises. It is an unusual experience, in the previous history of industry in Alabama, which the Hale correspondent indicates, "Most able-bodied men are working in mines, furnaces, and on railroads."

In one instance the abundant crop of last year is charged with producing a scarcity of labor, because while the means of the laborers hold out they will not work on farms. Another says:

> Most young negroes are leaving farms and congregating about towns, cities, and mines, and young whites are doing the same. One white laborer who has been raised to farm work is worth three negroes.

In Mississippi there is in general a good demand for labor, as young white men leave the farms and become teachers or engage in mercantile pursuits, and colored laborers go to Louisiana or Texas, or to the swamp region, from the settled portions of the State. In the parish of St. Mary, La., labor is abundant and reliable, a good feeling existing between them and their employés. Labor is generally reported scarce in Texas, as the laborers wish to cultivate land of their own, either plantations cut up and leased on shares, or cheap lands in the western part of the State. In some parts of Texas it is said that farmers are "too hard pressed for money to have help," and that they "can not afford to borrow money at 10 to 12 per cent. to pay for hired help." Labor here is augmented by immigration of Bohemians and Germans.

In Western Texas many Mexicans are employed. Much land is unoccupied in parts of Texas for want of labor to cultivate it. One corre-

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spondent refers to the negro as the best cotton maker, but indolent and content with a bare living. In *Kaufman* County "thousands of acres will be uncultivated this year from scarcity of hands." This scarcity and low prices have so discouraged farmers that they have mortgaged their farms to loan companies or abandoned them. There is a fruitful region in Arkansas, where labor is abundant, because the "small farms have more boys than tillable land or horses." Throughout the South it is easier to find transient or temporary labor, day labor, than regular employment by the month throughout the year.

Labor is somewhat scarce in West Virginia, owing to the activity of lumbering and coal-mining operations. In some counties in Kentucky labor is abundant, in others scarce, where laborers have gone into other industries. There is some complaint of lack of reliability.

There is abundance of work and plenty of workers in Ohio. The central county, Franklin, reports that "every man in the county can have work every day if he chooses." Yet there are local suggestions of deficiency as well as of abundance. It is held by some that from the farmer's stand-point, in view of the prices of products, farm labor is too high.

Many reporters in the West think wages are higher than the results of farming warrant, and that consequently farmers employ no more help than is absolutely necessary. There is in most places no real scarcity, yet a good demand exists, stimulated by competition, in lumbering, coal mining, railroading, and in the various industries of cities. Good help is scarcer than poor, in the West as everywhere else. There is no difficulty in finding employment at fair wages for all skilled labor throughout the central valley region. In parts of Wisconsin the influx of Germans, Swedes, and Norwegians causes a superabundance of labor. One correspondent in Minnesota, refers to the interesting fact that farmers' sons occupy their own land and thus reduce the demand for hired laborers. The self-binder has been a great boon in the harvesting of wheat, enabling the grower to do his work with fewer harvest hands. In many places farmers "change work" with their neighbors, combining their forces for harvest work, and with the aid of their machines avoiding the employment of harvesters by the day. This has reduced the excessive wages formerly demanded by harvesters in the great wheat regions. In Howard County, Mo., a superabundance of colored laborers are reported, who will not work on farms, and it is claimed that "a thousand good honest white men and women can find pleasant homes at remunerative wages."

On the Pacific coast the use of farm machinery is reducing the number of laborers employed, and the rate of wages, though still higher than in other States, has been materially reduced. There seems to be a tendency towards ownership of land by laborers, which is reducing the number employed. There is considerable immigration into Oregon, which increases the supply of labor there. Labor is fully employed in

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the Rocky Mountain region and in some places it is scarce. There is great activity in business of all kinds in the arid region, and great promise of future development.

The result of the whole investigation indicates a fair, if not full, employment of farm labor, at wages substantially the same as two years ago. It is suggestive and hopeful to note the increase of industrial activity in the South and West, more general and various than ever before, not only employing surplus rural labor, but making demand for the products of agriculture where they are grown. There is complaint of low prices of corn and oats, and thence in less degree of pork products, but wheat is higher than two years ago, and meats about the same as at the former investigation. A bad season, which would reduce the corn crop 30 per cent., would increase its price 40 or more, and of oats nearly as much. The depression, therefore, is only partial and probably temporary, and has not reduced wages of farm labor, partly because there is still a firm demand for the best quality, and partly because of the general industrial prosperity, which has a favorable reflex influence upon agriculture.

The sectional averages for each period of investigation are as follows:

Sections.	1890.	1888.	1885.	1882.	1879.	1875.	1869.	1866.
Eastern States	$26.64	$26.03	$25.30	$26.61	$20.21	$28.96	$32.08	$33.30
Middle States	23.62	23.11	23.19	22.24	19.69	26.02	28.02	30.07
Southern States	14.77	14.54	14.27	15.30	13.31	16.22	17.21	16.00
Western States	22.00	22.22	22.26	23.63	20.38	23.60	27.01	28.91
California	35.50	38.08	38.75	38.25	41.00	44.50	46.38	35.75
Average, United States	18.33	18.24	17.97	18.94	16.42	19.87	.....	.....

There have been only slight fluctuations in the average rates of wages since 1879, the period of lowest depression, which followed an era of currency expansion, speculation, and nominal high prices. Leaving out the Southern States, where negro labor depresses the average, the average rate would be $23, which represents the wages of white labor more truly than the general average of the country.

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WAGES PER MONTH BY THE YEAR.

The results of seven investigations, occurring at intervals between 1869 and 1890, are presented together in the following table, in which the changes of twenty-one years in monthly wages are presented at a glance:

[Wages given in dollars.]

States and Territories.	1890.		1888.		1885.		1882.		1879.		1875.		1869.	
	Without board.	With board.	Without board.	With board.	Without board.	With board.	Without board.	With board.	Without board.	With board.	Without board.	With board.	Without board.	With board.
Maine	25.00	17.50	24.64	17.20	23.09	16.00	24.75	16.15	18.25	11.08	25.48	15.94	26.25	16.50
New Hampshire	25.15	17.60	24.38	17.00	22.80	15.75	25.25	16.72	19.75	12.30	28.57	18.25	32.66	22.16
Vermont	24.80	17.35	23.25	16.40	23.00	16.20	23.37	16.00	19.00	11.50	29.67	19.37	32.40	21.40
Massachusetts	30.00	18.50	29.50	18.00	28.75	17.85	30.66	18.25	25.00	15.33	31.87	20.25	35.85	22.16
Rhode Island	29.20	18.00	27.75	17.50	28.50	17.70	27.75	17.00	23.00	13.25	30.00	19.00	32.25	20.60
Connecticut	27.00	17.33	27.40	17.17	27.67	17.20	27.90	17.87	23.29	14.23	28.25	18.50	33.00	20.75
New York	24.45	16.65	24.13	16.30	24.00	16.52	23.63	15.36	20.61	13.19	27.14	17.80	29.28	18.64
New Jersey	25.10	16.00	23.33	15.73	23.60	14.10	24.25	14.20	20.22	11.58	30.71	16.78	32.11	19.62
Pennsylvania	22.80	11.60	22.24	14.50	22.52	14.12	22.88	14.21	19.92	11.46	25.89	16.10	28.68	18.05
Delaware	17.35	11.15	18.00	12.25	18.33	12.63	18.20	12.50	17.00	9.50	20.33	11.67	22.00	13.00
Maryland	17.67	11.25	18.48	11.84	18.20	11.50	16.34	9.89	14.00	8.85	20.02	11.42	21.55	12.09
Virginia	14.21	9.47	18.32	9.25	13.95	9.31	13.99	9.17	11.60	7.66	14.84	9.21	15.28	9.65
North Carolina	12.83	8.80	13.41	9.00	12.85	8.91	12.86	8.89	11.19	7.66	13.48	8.82	12.76	7.91
South Carolina	12.19	8.62	12.25	8.00	12.00	8.25	12.10	8.10	10.25	6.66	12.84	8.19	11.54	7.36
Georgia	13.13	8.37	12.60	8.81	12.47	8.73	12.86	8.70	10.73	7.38	14.40	8.79	14.70	9.70
Florida	19.35	12.50	18.00	11.33	17.80	11.37	16.64	10.20	13.80	8.73	15.50	10.75	16.10	10.91
Alabama	14.00	9.85	13.59	9.49	13.00	9.10	13.15	9.09	13.20	8.30	13.60	9.40	15.19	10.52
Mississippi	15.38	10.50	15.03	10.09	14.60	10.00	15.10	10.09	13.31	9.28	16.40	11.25	17.11	11.21
Louisiana	15.98	11.79	15.37	11.12	16.05	11.26	18.20	12.69	16.40	11.27	18.40	12.20	21.37	12.62
Texas	19.85	13.30	19.20	12.60	18.87	13.72	20.20	14.03	18.27	11.49	19.50	13.37	18.83	13.21
Arkansas	18.40	12.55	18.34	12.50	17.33	12.25	18.50	12.25	17.12	11.31	20.50	13.00	25.25	16.60
Tennessee	14.23	10.12	14.00	10.00	13.88	9.74	13.75	9.49	12.73	8.69	15.20	10.00	16.81	11.09
West Virginia	19.55	12.95	18.74	12.25	19.00	12.40	19.16	12.46	16.98	10.94	20.75	13.10	21.39	13.87
Kentucky	16.85	11.70	16.51	11.33	16.80	11.69	18.20	11.75	15.17	10.00	18.12	12.00	18.84	12.57
Ohio	22.10	15.10	22.21	15.00	23.00	15.50	24.55	16.30	20.72	13.34	24.05	16.33	26.35	16.74
Michigan	24.80	16.75	25.20	17.00	24.00	16.14	25.76	17.27	22.88	14.64	28.22	18.46	31.01	20.03
Indiana	22.25	14.78	22.50	15.30	22.20	15.30	23.14	15.65	20.20	12.76	24.20	16.14	25.42	17.03
Illinois	23.25	16.35	23.20	16.00	23.50	16.60	23.91	17.14	20.61	13.01	25.20	16.87	27.32	17.69
Wisconsin	24.35	16.75	24.65	16.80	23.54	16.78	26.21	17.90	21.07	13.81	25.50	16.45	30.08	18.47
Minnesota	24.60	16.60	25.75	17.68	25.50	16.75	26.16	17.75	24.55	15.62	26.16	16.36	28.61	17.94
Iowa	25.41	17.00	25.60	17.34	25.37	17.00	28.11	17.95	22.09	13.90	24.35	16.11	28.39	17.87
Missouri	20.25	14.00	21.00	14.20	21.35	14.50	22.39	13.95	17.59	11.84	19.40	13.15	24.47	16.38
Kansas	22.75	15.05	24.25	16.05	24.70	16.00	23.85	15.87	20.67	13.28	23.20	14.65	28.96	18.35
Nebraska	25.50	16.60	25.50	17.18	25.00	16.50	24.45	16.20	23.04	14.86	24.00	14.75	33.25	19.18
California	35.50	22.40	38.08	25.67	38.75	25.00	38.25	23.45	41.00	26.27	44.50	28.60	46.38	28.69
Oregon	31.60	22.00	32.56	23.00	34.00	21.25	33.50	24.75	35.45	23.86	38.25	25.67	.....	.....
Nevada	35.00	23.00	38.00	27.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Colorado	33.75	21.00	36.00	23.00	33.00	21.25	36.50	27.08	35.00	20.00	38.50	21.14	.....	.....
Arizona	33.00	21.50	25.00	16.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dakota	24.75	17.10	25.85	18.21	25.55	17.60	.....	.....	28.56	16.57	32.50	20.50	.....	.....
Idaho	36.25	23.50	39.00	26.25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montana	36.50	23.80	40.00	27.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Mexico	27.50	17.83	28.75	18.25	28.75	17.50	.....	.....	22.10	13.80	22.75	14.25	.....	.....
Utah	32.30	21.00	33.50	22.30	30.00	21.00	.....	.....	28.87	20.50	35.50	25.33	.....	.....
Washington	37.00	24.40	35.20	25.00	38.33	26.25	.....	.....	.....	.....	.....	.....	.....	.....
Wyoming	34.00	25.00	37.00	25.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Average	18.33	12.45	18.24	12.36	17.97	.....	18.94	.....	16.42	.....	19.87	.....	.....	.....

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DAY WAGES IN HARVEST.

This table shows the average day wages paid in harvest time, with and without board, in the several States at the time when the several investigations were made:

[Wages given in dollars.]

States and Territories.	1890.		1888.		1885.		1882.		1879.		1875.		1869.	
	Without board.	With board.	Without board.	With board.	Without board.	With board.	Without board.	With board.	Without board.	With board.	Without board.	With board.	Without board.	With board.
Maine	1.70	1.35	1.65	1.30	1.58	1.19	1.52	1.22	1.42	1.09	1.99	1.49	2.17	1.65
New Hampshire	1.72	1.38	1.67	1.37	1.65	1.32	1.71	1.35	1.25	.96	2.06	1.64	2.37	1.95
Vermont	1.68	1.37	1.65	1.35	1.68	1.30	1.75	1.35	1.29	.97	2.28	1.85	2.46	2.00
Massachusetts	1.80	1.38	1.80	1.38	1.70	1.31	1.75	1.35	1.50	1.00	1.90	1.50	2.37	1.95
Rhode Island	1.75	1.25	1.75	1.35	1.60	1.25	1.60	1.30	1.30	.95	2.00	1.50	2.37	1.75
Connecticut	1.70	1.38	1.70	1.40	1.65	1.33	1.65	1.33	1.60	1.25	2.06	1.53	2.40	1.90
New York	1.80	1.38	1.80	1.37	2.00	1.54	1.89	1.47	1.53	1.18	2.23	1.75	2.53	1.99
New Jersey	1.85	1.46	1.88	1.50	2.04	1.65	2.09	1.74	1.55	1.30	2.56	2.03	2.63	2.09
Pennsylvania	1.55	1.18	1.51	1.13	1.65	1.20	1.73	1.30	1.33	.99	2.01	1.51	2.23	1.73
Delaware	1.20	.95	1.40	1.10	1.88	1.52	1.60	1.25	1.37	1.00	1.83	1.41	1.87	1.50
Maryland	1.32	1.00	1.46	1.15	1.74	1.38	1.52	1.15	1.43	1.12	1.81	1.34	2.16	1.67
Virginia	1.26	1.00	1.30	1.10	1.33	1.06	1.27	.99	1.16	.96	1.48	1.21	1.48	1.13
North Carolina	1.00	.80	.96	.75	1.15	.82	1.20	.85	.99	.70	1.17	1.00	1.37	1.04
South Carolina	.93	.78	.95	.72	.87	.64	1.08	.78	.89	.68	1.17	1.01	1.15	.90
Georgia	1.02	.81	.99	.77	1.04	.80	1.10	.80	.98	.61	1.29	.99	1.24	.90
Florida	1.04	.80	1.04	.78	.9	.70	1.12	.80	1.02	.73	1.00	.72	1.25	.87
Alabama	1.02	.75	.97	.72	.99	.76	1.05	.80	.96	.77	1.40	1.15	1.24	.95
Mississippi	1.00	.75	.97	.73	1.00	.79	1.23	.95	1.00	.85	1.40	1.00	1.56	1.27
Louisiana	1.03	.81	.92	.72	.93	.75	1.10	.85	1.03	.77	1.30	1.05	1.54	1.13
Texas	1.20	.93	1.23	.96	1.32	1.04	1.39	1.08	1.30	.94	1.52	1.20	1.58	1.26
Arkansas	1.25	.93	1.30	.97	1.30	1.03	1.34	1.02	1.38	1.08	1.50	1.25	1.67	1.40
Tennessee	1.15	.91	1.20	.93	1.28	1.04	1.30	1.00	1.28	.98	1.62	1.20	2.10	1.59
West Virginia	1.30	1.00	1.20	.92	1.31	1.03	1.30	1.00	1.26	.95	1.55	1.20	1.78	1.29
Kentucky	1.47	1.15	1.35	1.07	1.51	1.17	1.54	1.18	1.49	1.15	1.79	1.46	1.83	1.38
Ohio	1.50	1.20	1.56	1.23	1.75	1.40	1.79	1.41	1.51	1.17	2.03	1.60	2.15	1.72
Michigan	1.79	1.39	1.80	1.40	1.90	1.57	2.13	1.76	2.02	1.55	2.50	2.00	2.76	2.25
Indiana	1.55	1.25	1.64	1.32	1.85	1.55	1.89	1.58	1.68	1.28	2.20	1.75	2.16	1.77
Illinois	1.58	1.27	1.60	1.25	1.80	1.40	1.91	1.54	1.52	1.18	2.20	1.83	2.34	1.94
Wisconsin	1.64	1.30	1.80	1.41	1.89	1.57	2.50	2.10	2.11	1.70	2.40	1.92	2.45	1.96
Minnesota	1.95	1.51	2.20	1.75	2.29	1.89	2.61	2.16	2.63	2.25	2.82	2.30	2.90	2.36
Iowa	1.71	1.50	1.81	1.46	2.00	1.61	2.25	1.81	1.66	1.57	2.57	2.10	2.85	2.24
Missouri	1.35	1.10	1.43	1.13	1.62	1.30	1.59	1.23	1.47	1.17	1.75	1.43	2.30	1.84
Kansas	1.44	1.13	1.60	1.25	1.87	1.48	1.70	1.35	1.70	1.32	1.86	1.46	2.08	1.63
Nebraska	1.65	1.27	1.80	1.42	1.98	1.55	1.95	1.57	2.17	1.66	2.40	1.98	2.41	2.00
California	2.10	1.75	2.25	1.85	2.20	1.80	2.30	1.86	2.27	1.76	2.50	2.00	2.82	2.04
Oregon	1.90	1.45	1.94	1.45	1.95	1.50	1.92	1.50	2.02	1.54	2.11	1.72	.....	.....
Nevada	2.00	1.70	1.80	1.37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Colorado	1.65	1.21	1.87	1.35	2.05	1.50	2.21	1.80	2.08	1.55	2.33	1.50	.....	.....
Arizona	1.75	1.25	1.70	1.20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dakota	2.00	1.52	2.12	1.64	1.38	1.00	2.65	2.19	.....	.....	2.37	1.90	.....	.....
Idaho	2.00	1.50	2.00	1.52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montana	2.00	1.50	2.20	1.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Mexico	1.25	.95	1.31	1.00	1.31	.88	1.65	1.40	1.00	.67	1.35	.90	.....	.....
Utah	1.70	1.27	1.72	1.30	1.75	1.36	2.00	1.56	1.82	1.43	2.20	1.75	.....	.....
Washington	2.10	1.67	2.10	1.60	2.05	1.50	.....	.....	2.15	1.61	2.40	2.00	.....	.....
Wyoming	1.75	1.30	2.00	1.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Average	1.30	1.02	1.31	1.02	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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DAY WAGES OF ORDINARY FARM LABOR.

This table gives the average wages, by States, of transient labor employed by the day, other than in harvesting, representing partly a less skilled labor and partly the difference between the strong competition caused by the pressing exigencies of farm labor and the greater abundance of ordinary service.

[Wages given in dollars.]

States and Territories.	1890.		1888.		1885.		1882.		1879.		1875.		1869.	
	Without board.	With board.	Without board.	With board.	Without board.	With board.	Without board.	With board.	Without board.	With board.	Without board.	With board.	Without board.	With board.
Maine	1.30	.98	1.25	.92	1.19	.88	1.18	.91	.97	.72	1.46	1.05	1.48	1.05
New Hampshire	1.35	1.00	1.27	.95	1.30	.95	1.30	.97	.98	.74	1.50	1.12	1.79	1.41
Vermont	1.19	.92	1.16	.90	1.15	.88	1.20	.90	.91	.64	1.51	1.11	1.76	1.28
Massachusetts	1.45	1.00	1.42	1.00	1.50	1.00	1.45	1.08	1.05	.75	1.44	1.12	1.92	1.37
Rhode Island	1.45	1.02	1.42	1.02	1.25	.94	1.28	1.00	1.00	.50	1.62	1.18	1.73	1.18
Connecticut	1.37	1.00	1.33	1.00	1.32	1.00	1.30	.98	1.50	.88	1.50	1.16	1.87	1.37
New York	1.23	.90	1.21	.90	1.26	.93	1.29	.93	.92	.68	1.48	1.06	1.64	1.19
New Jersey	1.25	.92	1.20	.87	1.17	.83	1.21	.86	.99	.68	1.45	1.00	1.63	1.15
Pennsylvania	1.09	.81	1.10	.82	1.10	.80	1.20	.85	.96	.63	1.37	.95	1.43	1.04
Delaware	.85	.63	.95	.70	1.00	.78	1.10	.80	.75	.50	1.04	.70	1.30	.95
Maryland	.87	.61	.90	.64	.93	.62	.83	.55	.75	.48	1.06	.73	1.20	.77
Virginia	.75	.52	.73	.51	.71	.49	.70	.48	.63	.44	.78	.51	.80	.55
North Carolina	.62	.46	.61	.45	.67	.47	.68	.46	.58	.41	.72	.51	.74	.49
South Carolina	.63	.45	.65	.48	.60	.45	.63	.45	.53	.41	.71	.55	.70	.50
Georgia	.73	.50	.75	.50	.66	.47	.70	.49	.58	.44	.83	.60	.83	.60
Florida	.92	.68	.95	.70	.85	.60	.75	.55	.76	.53	.93	.70	.90	.72
Alabama	.74	.55	.72	.53	.73	.52	.72	.51	.69	.50	.75	.53	.86	.61
Mississippi	.79	.60	.75	.55	.80	.60	.75	.55	.78	.55	1.07	.80	1.10	.90
Louisiana	.88	.67	.85	.65	.82	.64	.80	.60	.85	.62	1.00	.74	1.44	.83
Texas	.97	.73	.95	.71	.98	.76	.93	.70	.92	.66	1.14	.84	1.16	.84
Arkansas	.93	.65	.93	.65	.89	.64	.88	.62	.86	.60	1.10	.80	1.36	1.02
Tennessee	.71	.53	.74	.53	.71	.52	.72	.50	.69	.50	.95	.60	1.05	.68
West Virginia	.90	.68	.85	.62	.83	.60	.82	.59	.80	.55	1.05	.75	1.14	.79
Kentucky	.88	.67	.82	.60	.84	.59	.87	.60	.77	.53	1.03	.72	1.10	.77
Ohio	1.05	.83	1.07	.82	1.11	.85	1.19	.89	1.00	.83	1.35	1.00	1.44	1.05
Michigan	1.19	.88	1.20	.90	1.28	.92	1.30	.96	1.16	.82	1.55	1.10	1.66	1.17
Indiana	1.05	.78	1.10	.82	1.08	.80	1.08	.78	.90	.09	1.30	.95	1.36	1.01
Illinois	1.13	.86	1.12	.84	1.14	.87	1.19	.90	1.01	.73	1.37	1.01	1.50	1.13
Wisconsin	1.26	.87	1.22	.97	1.20	.95	1.33	.99	1.12	.79	1.42	1.00	1.56	1.15
Minnesota	1.28	.98	1.30	1.00	1.25	.99	1.37	1.02	1.27	.94	1.50	1.07	1.64	1.18
Iowa	1.23	.95	1.27	.97	1.31	.97	1.34	.99	1.12	.80	1.38	1.01	1.52	1.13
Missouri	.91	.75	.94	.80	.95	.68	1.00	.70	.67	.59	1.07	.73	1.44	1.02
Kansas	1.10	.78	1.17	.85	1.20	.87	1.12	.80	1.05	.72	1.30	.90	1.56	1.12
Nebraska	1.28	.94	1.37	1.00	1.35	.97	1.21	.91	1.29	.90	1.43	1.00	1.62	1.26
California	1.55	1.15	1.60	1.18	1.57	1.15	1.71	1.29	1.65	1.23	1.84	1.30	2.13	1.50
Oregon	1.38	1.03	1.35	.98	1.30	.95	1.33	1.00	1.44	1.08	1.47	1.15	.....	.....
Nevada	1.63	1.18	1.65	1.20	.....	.....	.....	.....	.....	1.25	.....	.....	.....	.....
Colorado	1.43	1.05	1.60	1.12	1.55	1.10	1.63	1.14	1.83	1.19	1.75	1.16	.....	.....
Arizona	1.58	1.20	1.25	.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dakota	1.40	1.04	1.35	1.10	1.31	1.08	1.50	1.11	1.34	.92	1.62	1.08	.....	.....
Idaho	1.63	1.45	1.50	1.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montana	1.65	1.45	1.70	1.25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Mexico	1.35	1.00	1.35	1.00	1.25	.81	1.28	1.00	.81	.56	.85	.50	.....	.....
Utah	1.38	1.05	1.42	1.10	1.52	1.14	1.57	1.10	1.46	1.12	1.80	1.40	.....	.....
Washington	1.60	1.27	1.45	1.15	1.70	1.17	.....	.....	.....	.....	.....	.....	.....	.....
Wyoming	1.45	1.12	1.50	1.10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Average	.92	.68	.92	.67	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The State agents make the following notes relative to wages and supply of labor:

MAINE.—Farm labor is scarce. There are two well-defined causes for this condition the present spring, one of which may be termed permanent, the other temporary. The former is due to the fact that a majority of the young men and women prefer town and city life and employments where they generally have shorter days and better wages for their labor. The latter, or special cause, is found in the extra

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demand for laborers in other directions. The shipping of ice, work on railroads, steam and electric; work at new manufacturing plants, electric-lighting stations, and at the hotels and stables of our summer resorts is this year making a greater demand than ever before for that class of help which has usually sought the farms.

NEW YORK.—Farmers are trying to get along with as little hired labor as possible, as the wages of farm help are 25 per cent. higher than the industry will generally warrant. Laborers, both male and female, are seeking employment in the cities, because they want fewer hours of labor and more time for recreation. Thousands of houses are standing empty in the country towns on account of this mania to get to the cities.

PENNSYLVANIA.—Sixty per cent. of the improved area report a scarcity of farm labor, due to several causes. Mining, manufacturing, lumbering, and railroading offer better wages and shorter days. There is also a disposition on the part of young men to go to the towns where wages are better, more attractions, and greater opportunity to become rich rapidly.

VIRGINIA.—Farm labor is becoming scarce. In about 72 per cent. of the counties it is deficient. Railroads, mines, mills, etc., in a large part of the State are taking the laborers from the farms and some are emigrating to the North. In the eastern counties the oyster and fish interests entice the labor from the fields, and to some extent the negro laborers are buying land and working for themselves. Wherever the mining industries and public works are most active, the price of labor is the highest.

NORTH CAROLINA.—There is plenty of farm labor in the corn and tobacco sections, except in a few counties where railroads are being built. In the east the "exodus" has carried off thousands. The effect will be felt chiefly on the cotton crop, as these negroes (who have left and are yet leaving) worked mainly on shares, or as "croppers."

GEORGIA.—Complaints of scarcity of labor are quite general in counties traversed by new railroads and in turpentine and lumbering districts. Railroad contractors, etc., pay higher nominal wages per day, but in fact they get more work for the money paid out than do farmers for the same money, owing to closer and more exacting superintendence.

MISSISSIPPI.—The supply of farm labor is insufficient. Many are induced by the prospect of larger wages to leave the farm for the railroad. A great many saw-mills have been established of late in the pine-growing regions, and these are drawing largely upon the farms for their labor.

LOUISIANA.—Very few contracts for farm labor are made by the year. Tenants (mostly colored) perfer to work by the month or season—according to locality—upon the share system or by paying rent. There is also a marked disposition upon their part, especially in the hill sections, to acquire property. Harvest hands are always in demand for cutting rice, which begins in August, also during the sugar-making and cotton-picking seasons, during which time the supply by no means equals the demand.

ARKANSAS.—Farm laborers in most localities are receiving employment at average wages, and the supply seems to be nearly equal to the demand, except in a few localities where railroads are being built and manufacturing enterprises exist.

KENTUCKY.—There is no general scarcity of labor. In some sections there is a deficiency, but it is more than balanced by a plentiful supply in other localities.

OHIO.—Farm labor is quite equal to the demand, except in counties contiguous to large cities, or in localities of mines or manufactories or other enterprises calling for large numbers of men. Wages are somewhat depressed by sympathy with present depression in prices of most farm products, and also by the inclination of producers to do their own work when possible.

MICHIGAN.—The supply of farm labor seems to be sufficient, except in very few localities where young men have gone west or to the cities. Many small farmers are doing their own work.

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ILLINOIS.—With few exceptions there is an abundant supply of farm labor. In the exceptional cases the scarcity is accounted for by the young men going west and to the cities, where less hours per day are required and better wages obtained than can be had on the farm. The wages paid for farm labor compare favorably with the rate paid in 1888, notwithstanding the depressed condition of agriculture at the present time.

WISCONSIN.—The supply of farm labor is sufficient except in a few counties near the pineries, where for fall work on the farm labor is scarce on account of the attraction of higher wages paid by lumbermen. In a few counties dairying has increased farm wages and brought a better class of men into this field of labor.

MINNESOTA.—The supply of farm labor is equal to the demand. There is, however, a great diversity in the price of labor, it being much higher on the frontier and in the more recently settled portions than in the older parts of the State.

IOWA.—Since the advent of the self-binder farm laborers do not command any better wages for harvesting than for haying or for general farm work. Trustworthy and reliable service is well paid. Intelligent employés of good habits are usually retained at 10 or 15 per cent. better prices than the average man.

MISSOURI.—There is a sufficiency of farm labor as a rule. Few farmers feel able to employ much help, and so far as they do, are not disposed, with the prevailing low prices of farm products, to pay as high wages as can be secured in other directions.

KANSAS.—Generally the supply of farm labor is abundant, and in some localities largely in excess of the demand; the low price of farm products preventing many farmers from hiring.

SOUTH DAKOTA.—Few laborers are hired by the year, but mostly for from six to eight months, with board included with wages. The supply is sufficient, but not as plentiful as last year.

SUGAR PRODUCTION IN EUROPE.

The evolution of the beet-sugar manufacture is a growth of the present century. It was fostered early in the century by science and government through invention and bounty, yet half of its development has occurred during the last decade. Profiting by European experience this country has a less difficult problem to solve. There have been no satisfactory experiments in the manufacture here until the success of Alvarado in California. Those of Maine, Wisconsin, and Illinois were preliminary and inconclusive. They were necessarily failures from lack of skill and completeness of preparation, and still more from failure of farmers to co-operate. Why, in the Maine case the average contracts were for only a fraction of an acre, a garden patch receiving ordinary field cultivation, without knowledge of the necessary culture or fertilization, without the adjunct of cattle-feeding and utilization of the by-product.

Now there promises to be a revival of the experiment since the repeated successes in California, with high promise of continued enlargement. Nebraska has already entered the lists. It would be a craven and ignominious acknowledgment to admit that the manufacture can be carried on successfully throughout Europe and can not be a success upon the continent of North America, when a good yield of beets having a high content of sugar has been repeatedly grown from the

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Atlantic to the Pacific, and good sugar has been made year after year ata profit.

There are many intelligent citizens, even some newspaper editors, who are entirely unaware of the fact that half the commercial sugar of the world is made of beet, on a continent where cane can not be grown, and no other source of sugar is extensively available, and especially oblivious of the fact that cane sugar is practically barred entrance into Europe, because the home product of beet sugar leaves no room for it. This general proposition has been vigorously assailed in the public press, though the facts show that for several years the Continent of Europe, exclusive of the British Isles, has exported more than its imports. Indeed, few except those who keep abreast of the statistical situation in sugar production are fully aware of the recent development of the industry. The present season, if Licht's estimate is reliable, the production (3,600,000 metric tons) is ample for the consumption of Great Britain and the Continent together. The progress of beet-sugar manufacture in Europe in thirteen years, according to the authority quoted, is shown by the following figures of production, which are stated in metric tons of 2,204.6 pounds:

Years.	Germany.	France.	Austria Hungary.	Russia and Poland.	Belgium.	Holland and other countries.	Total.
1877–'78	383, 828	398, 132	330, 792	220, 000	63, 075	25, 000	1, 420, 827
1878–'79	420, 686	432, 634	403, 906	215, 000	69, 957	30, 000	1, 574, 183
1879–'80	411, 625	277, 912	406, 375	225, 000	58, 017	25, 000	1, 403, 929
1880–'81	594, 223	333, 614	498, 082	250, 000	68, 626	30, 000	1, 774, 545
1881–'82	644, 775	393, 269	411, 015	308, 779	73, 136	30, 000	1, 860, 974
1882–'83	848, 124	423, 194	473, 000	284, 391	82, 703	35, 000	2, 146, 412
1883–'84	988, 402	473, 676	445, 952	310, 000	106, 586	40, 000	2, 362, 616
1884–'85	1, 155, 000	308, 400	557, 500	386, 400	88, 450	50, 000	2, 545, 750
1885–'86	825, 050	299, 400	377, 000	540, 600	48, 400	37, 500	2, 127, 950
1886–'87	950, 000	500, 000	525, 000	475, 000	80, 000	50, 000	2, 580, 000
1887–'88	959, 156	392, 824	428, 616	441, 342	140, 742	119, 260	2, 481, 940
1888–'89	990, 604	466, 767	523, 242	520, 387	145, 804	133, 040	2, 785, 844
1889–'90	1, 260, 000	775, 000	750, 000	475, 000	200, 000	140, 000	3, 600, 000

Germany produces about one-third, heading the list of producing countries. Austria and France are large producers, and Russia has more than doubled production in a dozen years. The average product of four years, prior to the campaign just closed, is 2,493,936 metric tons, or 5,498,131,306 pounds. A comparison of imports and exports shows that this product more than sufficed for the consumption of the continent. The net exports of recent years average nearly 1,500,000,000 pounds, making the consumption about 4,000,000,000 pounds annually. With increase of production and prevailing cheapness, however, consumption is doubtless now increasing materially. The rate of consumption differs greatly in the different countries, being very low in Russia and Italy, Spain and Portugal; much larger for France and Germany and Scandinavia, though these countries scarcely use a third as much as Great Britain.

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For the purpose of closely approximating the annual consumption of sugar in Europe, and of determining how much, in recent years, is beet sugar and how much cane sugar, the customs records of 1886 to 1888 inclusive have been searched, and imports and exports of each country ascertained and reduced to pounds from the original killograms, hundred weights, poods and other measures. An annual average of three years eliminates much of the effect of the annual fluctuation, and determines more closely the annual consumption, which is made up of the two elements—production and importation.

The following table shows, for the years indicated, the average annual imports of sugar into the countries named, with the average annual exports therefrom for the same periods respectively. It also shows the net imports or the net exports, as the case may be, for each country, with the general net imports for the whole of Europe.* The figures for Austria-Hungary, Germany, Roumania, and Switzerland include molasses, and to that extent overstate the sugar trade. All the figures are taken directly from the official documents of the respective countries with the exception of those for Russia and Switzerland, which are from the British "Statistical Abstract for the Principal and other Foreign Countries." The foreign denominations are here reduced to their equivalents in pounds:

Countries.	Years.	Annual average.			
		Imports.	Exports.	Net imports.	Net exports.
		Pounds.	*Pounds.*	*Pounds.*	*Pounds.*
Austria-Hungary	1886, 1887, and 1888	2, 362, 964	515, 840, 906	.....	513, 477, 942
Belgium	....do	30, 164, 776	218, 921, 270	.....	188, 756, 494
Denmark	....do	41, 477, 309	5, 284, 461	36, 192, 848	.....
France	....do	387, 578, 141	337, 925, 353	49, 652, 788	.....
Germany	....do	15, 541, 695	1, 397, 216, 691	.....	1, 381, 674, 996
Great Britain and Ireland	....do	2, 697, 017, 456	111, 136, 032	2, 585, 881, 424	.....
Greece	1887 and 1888	14, 937, 983	.....	14, 937, 983	.....
Italy	1886, 1887, and 1888	174, 577, 644	219, 137	174, 358, 507	.....
Netherlands	1887 and 1888	232, 828, 738	209, 201, 115	23, 627, 623	.....
Portugal	1886, 1887, and 1888	54, 358, 528	.....	54, 358, 528	.....
Roumania	1885 and 1886	19, 909, 333	1, 976	19, 907, 357	.....
Russia	1885, 1886, and 1887	.....	130, 885, 550	.....	130, 885, 550
Spain	1886, 1887, and 1888	116, 962, 663	8, 914	116, 953, 749	.....
Sweden and Norway:					
Sweden	1885, 1886, and 1887	86, 730, 728	101, 392	86, 629, 336	.....
Norway	1886, 1887, and 1888	26, 089, 692	1, 031, 290	25, 058, 402	.....
Switzerland	1885, 1886, and 1887	77, 167, 099	.....	77, 167, 099	.....
Total	.....	3, 977, 704, 749	2, 927, 774, 087	3, 264, 725, 644	2, 214, 794, 982

This table shows that the continent has had, for three years at least, a surplus sufficient for more than half of the requirements of consumption in Great Britain. The details of exportation of Germany and other beet-sugar countries show that the larger portion of their shipments abroad go to Great Britain. The difference between these aggregates of exports and imports, 1,049,930,662 pounds, is presumed to represent

*Montenegro, Servia, and Turkey, with its tributary States, are the only European countries not included. For these no statistics are available.

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approximately the share of cane-sugar in recent consumption, say one-sixth to five-sixths of beet-sugar. At the same time the past year's product is more than a million tons in excess of the consumption of the continent and British Isles together; the excess over recent years is twice as much as the net importation into Europe. In view of this fact, it is safe to say, for the present at least, that in Europe production has outrun consumption, with a prospect of having a constant surplus for other continents.

The farmers of the country have some responsibility in the development of the sugar industry. The product can not be made without beets, which must come from the fields of the farms. The value of the roots depends upon their content of sugar, which depends in turn upon seed, soil, fertilization, and cultivation. This difference may vary a dollar or more per ton and represent all of the possible profit in their production. Hence the farmer has a large stake in the skill and technical knowledge which yields the best results. As he must learn the requirements of the plant and the details of its treatment, he must not expect to escape reduction of his profits as a necessary penalty for the blunders of his apprenticeship. The most extensive preparations for beet-sugar production, east of the Rocky Mountains, are to be made this season at Grand Island, Nebr., and Medicine Lodge, Kans. At the latter place beet sugar was made last year.

The prevailing error in agricultural practice, as in some other lines of effort in this country, is to look only to the present hour, and get the largest return to-day, without a thought of the future. The beet-sugar industry involves something more than the price of a ton of beets the present year. It includes—

(1) Rotation, which insures large yields and clean cultivation.

(2) Symmetry in rural development, variety in production.

(3) Fertilization, providing in large degree the material through cattle-feeding.

(4) Fine tilth and thorough cultivation.

(5) Increased value of land, from its enlarged capacity for production, and the cheapening of cost of product and resulting increase of net profit.

It would be easy to show the relative advance in value of lands in beet-sugar districts, the increase of agricultural wealth, and the general prosperity enhanced by this industry. Rotation is a necessity, the soil must be enriched, though fertilizers must be applied to preceding crops and not to the crop of beets directly. Sugar-beet culture is only one link in the chain of production which gives variety and prosperity to agriculture.

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FOREIGN DISTRIBUTION OF WHEAT AND CORN SURPLUS.

The inquiry is frequently made for the destination of the grain exports of the United States. Where are the "markets of the world?" The record of the last fiscal year, 1888–'89, makes foreign shipments of wheat which were from the crop of 1888, 46,414,129 bushels in the form of grain and 42,186,616 bushels in the form of flour, a total export of 88,600,745 bushels. Of this aggregate 78.2 per cent. went to Europe and 8.2 to Canada and Mexico, mostly the former. Canada acknowledges over 1,000,000 bushels of grain of this country in her exports, and records only an importation of 1,418 barrels of flour and an exportation of 156,360 barrels (all of which except 25,179 barrels was of domestic wheat), while our records of exports to Canada for last year include 933,354 barrels, most of which was evidently en route to Europe, and should be included in our exports to Europe. Something like 4,500,000 bushels of wheat, therefore, are wrongly charged to Canada, which would increase the European percentage to at least 83, or five-sixths of the total exports.

The other sixth goes to other than European "markets of the world." To all the countries of Central and South America were sent 7.2 per cent.; to the islands of the seas 5.3 per cent., and only 2 per cent. altogether to Asia, Africa, and Australasia. Less than 2,000,000 bushels, either as flour or grain, represent the markets of three continents and nearly two-thirds of the population of the world. A single county of Dakota could supply from its surplus this requirement, and in any good season each of five principal counties could do it easily, viz, Brown, Cass, Grand Forks, Pembina, and Walsh, and possibly each of several others, and yet all the back counties of the two Dakotas are pushing forward in their search for more markets of more continents to conquer. It is an ambition that has already seriously reduced the price of wheat of the United States.

The details of this distribution are presented by countries as follows:

Countries.	Grain.	Flour as wheat.	Total wheat.	Grain.	Flour.	Total.
				Per ct.	*Per ct.*	*Per ct.*
Europe	43,035,337	26,255,975	69,291,312	48.6	29.6	78.2
United Kingdom	31,568,536	23,721,048	55,289,584	35.6	26.8	62.4
France	7,655,176	900	7,656,076	8.6	.....	8.6
Belgium	1,835,942	213,377	2,049,319	2.1	.2	2.3
All other European countries	1,975,683	2,320,650	4,296,333	2.3	2.6	4.9
North America	1,854,235	5,438,795	7,293,030	2.1	6.1	8.2
Central America	53,049	736,218	789,267	.1	.8	.9
South America	813,821	4,806,752	5,620,573	.9	5.4	6.3
Asia	.....	177,498	177,498	.0	.2	.2
Africa	3,506	45,788	49,294	.0	.1	.1
Australasia	562,502	168,732	731,234	.6	.2	.8
Islands of the seas	91,679	4,556,858	4,648,537	.1	5.2	5.3
Grand total	46,414,129	42,186,616	88,600,745	52.4	47.6	100

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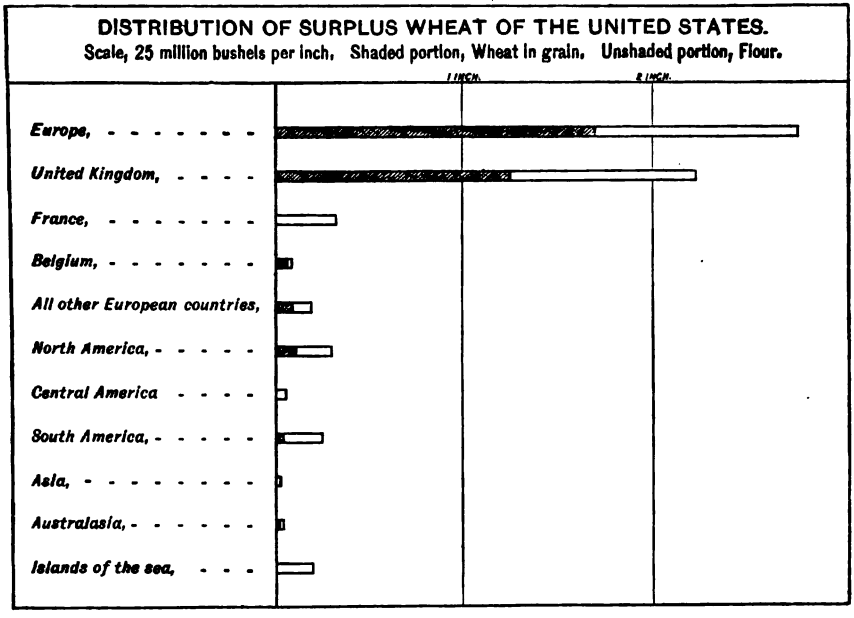
To enforce upon the attention of the most casual reader the meaning of this unequal distribution, and throw a strong light upon the worthlessness of the world's markets for wheat, unless an exception be made of Liverpool, a diagram has been prepared which requires only a glance of the eye (of one eye) to make the subject clear as sunlight.



The exports of corn for the year ending June 30, 1889, and the principal countries receiving it, are as follows:

Countries to which exported.	Bushels.
Great Britain	41, 096, 727
France	6, 564, 952
Germany	4, 608, 481
Belgium	4, 009, 886
Denmark	1, 854, 709
Netherlands	1, 468, 038
Other European countries	436, 521
Total for Europe	60, 039, 314
All other countries	9, 553, 615
Total	69, 592, 929

The distribution of corn during the last fiscal year shows about the same proportion sent to Great Britain, and a smaller export to countries outside of Europe than in the case of wheat, or only 13.7 per cent. France, Germany, Denmark, the Netherlands, and Belgium, take a little, while the bulk of the exports go to the British Isles. Either McLean or Livingston County, Ill., grows annually more corn than was exported to all the markets of the world outside of western Europe last year. As this country produces three-fourths of all the corn of the

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world, and consumes more than twice as much as all other countries combined, it will require much missionary effort and experimental teaching in the preparation of a maize dietary to induce foreigners to make use of corn for food. It is only wanted now, when very cheap, as a constituent in the feed rations of horses and cattle, and only to a very limited extent, by a few buyers in western Europe. The rejection of the proposition to establish a corn exhibit at the late Paris Exhibition, which should include all possible forms of corn cookery, and the practical demonstration of the widely varied uses and cheapness and palatability of culinary products of this great cereal, was a failure to utilize a magnificent opportunity to popularize a product which is the most important arable crop of the United States. However, a hundred such exhibitions could never make half the market for corn which is represented by our home markets.

EUROPEAN CROP REPORT FOR MAY.

GREAT BRITAIN.

After much variable weather, which on the whole has been favorable, the month closes with some of the finest days England has ever seen, following the heavy rain-storms of the 24th and 25th ultimo. The wheat is strong and healthy, but not advanced as it was last year, and a genial May is looked forward to to bring the crops to the standard of growth.

A parliamentary paper lately issued shows the number of outbreaks of pleuro-pneumonia in the district of each local authority in the United Kingdom in the three years 1886, 1887, 1888, the number of diseased and healthy animals slaughtered, and the sums paid as compensation. The outbreaks were, respectively, 907, 861, and 703; the number of diseased cattle slaughtered, 3,546, 3,195, and 2,059; and of healthy cattle in contact, 2,042, 3,614, and 10,745; and the total compensation for such cattle, £36,826, £45,158, and £81,950. While the compensation for diseased animals diminished by one-half that for healthy animals increased six fold, from £11,141 in 1886 to £66,678 in 1888. Only one small outbreak appeared during the period in Wales.

FRANCE.

France has been well favored by April. The weather has in general been soft and rainy, with intervals of sunshine. From the south there is slight complaint of the effect of frosty nights in some localities, but the rest of France is well content with the prospects, which, for this season of the year, are particularly good.

AUSTRO-HUNGARY.

The numerous reports which have been received this month from Vienna and Budapest take a most cheerful view of the prospects of the crops. A little anxiety was felt during the first of the month on account

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of the lack of rain, but this defect has been cured, and the rest of the month has been most seasonable in its character, moisture and high temperature being the rule. As it stands now no complaint is heard as to the growing crops except rape-seed, which is represented as having been badly frost-bitten, and worm-eaten.

GERMANY.

There is great unanimity in the German reports that the prospects are most excellent. A detailed examination of the return from every division in each province of Prussia fails to disclose a single point where destructive damages are mentioned. The nearest approach to a complaint is found in some of the districts along the Rhine, where there is some slight apprehension as to the result of the winter, coupled with news of most genial weather at present.

There is no modification of the situation as regards cattle disease. Several new outbreaks are reported.

RUSSIA.

The reports of the Russian crops have been contradictory and still continue to be. In general the spring sowings have been completed much earlier than usual, and the winter wheat in many parts is considered bad. Late rains which have been in abundance, and widely spread, have somewhat improved the unfavorable outlook.

E. J. M.

UNITED STATES CONSULAR REPORTS.

Ontario, Amherstburg.—Consul Turner, in a report dated April 25, states that the season last fall was so unfavorable for sowing winter wheat that less than the usual quantity was put in, and that the area sown suffered greatly from want of snow protection. Exposure and continual freezing and thawing during the entire winter injured the prospect and not more than half an average crop is expected.

Hungary, Budapest.—Vice-Consul Gerster, writing March 27, states that an official report of the ministry of agriculture shows that on the left bank of the Danube the lack of snow during the winter injured grain prospects, fields being bare and the young plants exposed to wintry blasts. Along the right bank the crop has suffered from the cold winter and shows poor color.

Turkey, Constantinople.—Consul-General Sweeny, under date of April 9, states that the rain-fall has not been sufficient and fears are entertained that the grain and other harvests will not be abundant unless the drought is soon broken. Vines, both on the European and Asiatic coast of the Sea of Marmora, are well cared for and the prospect is very fair, there being no danger of phylloxera. Some new vineyards are being planted due to the success of those already established.

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Scotland, Glasgow.—Consul Brown, under date of April 18, writes that the spring season continues favorable for planting and germination of all seeds. The sowing of cereals is nearly or quite finished, and has been prosecuted under the most favorable conditions. The rain-fall was light and the soil in excellent condition. Wheat is reported in good condition, and so thick on the ground that in some cases harrowing has been resorted to for the purpose of thinning it. Corn is not raised in Scotland, nor is it used except for food for stock. It would make a food product for the people superior to the wheaten flour now used, which is of the poorest grade, black, and scarcely fit for human food. Potatoes have germinated promptly, and in some places have been slightly injured by frost. They are earlier than usual, and it is probable that the new crop will be on the market at least ten days sooner than usual.

Land rents are about the same as last year, except in the case of grass lands which are reported a trifle lower, doubtless because summer grazing last year was not profitable.

Palestine, Jerusalem—Consul Gilman, in a report dated March 31, states that that month is the season for the beginning of the "latter rain." During the month about 1½ inches of rain had fallen, enough to produce "for every one grass in the field." Without the "latter rain" the ears of wheat and other grain would not fill, but prove a failure. The ordinary garden vegetables are in good supply and the prospects for abundant harvests generally favorable. The exports of oranges during the month from that port amounted to 35,000 cases, and the price rapidly advances, the best fruit now bringing from $15 to $20 per thousand.

Ontario, Kingston—Consul Twitchell makes the following report, dated March 31:

> Fall wheat, clover, and old meadows very much injured by the want of snow covering in the winter. Horses, cattle, and sheep have done well and look better this spring than for several years previous. Farmers have an abundance of hay and grain for their own use with considerable barley and other grains held over for a rise in price. Farmers are not buoyant as to the prospects of farming; the last four years have been very discouraging and there is nothing at present in sight but additional difficulties. Many farmers are building silos and turning their attention to the keeping of more cows, hoping in the early future to sell butter and cheese instead of, as at present, hay and barley.

England, Leeds.—Consul Wigfall, writing April 1, says that sharp frosts early in the month of March are reported to have placed the land in fine condition of tilth. The weather during the month was continuously favorable, though there is some complaint of too much rain and consequent interference with the growing of barley. Healthy progress is attributed to the growing crops and considerable headway has been made with spring sowing. Generally speaking, the outlook is in every way encouraging. A recent publication is quoted as containing an estimate of a margin for freight and profit of $57 per head upon beef

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cattle imported from the United States. This is reckoned upon the basis of 3½ to 4 cents live weight at Chicago, and such a margin would seem to warrant the increase in the trade which is noted. The year is too little advanced yet to give a definite idea of probable results. June, July, and August are the decisive months, but, so far as present conditions go for anything, the prospect is now said to be fairly good.

Austria, Reichenberg.—Commercial Agent Hawes on April 8, quoting from the official reports of the statistical bureau, gives the following statememt of the surface under cultivation in Bohemia and the crops raised therefrom during the year 1889:

Crops.	Area.	Product.	Crops.	Area.	Product.
	Acres.	*Bushels.*		*Acres.*	*Tons.*
Wheat	603, 801	11, 811, 681	Sugar beets	356, 827	3, 437, 705
Rye	1, 405, 848	24, 871, 993	Clover	658, 559	834, 587
Barley	850, 187	19, 173, 470	Mixed (fodders)	121, 746	123, 510
Oats	1, 108, 651	27, 961, 122	Colza	45, 093	21, 147
Grains in pods	145, 544	1, 723, 299	Plants for spinning	70, 470	12, 184
Potatoes	829, 653	105, 488, 432			

Cuba, Sagua la Grande.—Commercial Agent Mullen, writing April 23, says that a serious drought still prevails, augmenting the damage already occasioned and preventing the planting of spring cane for the crop of 1891. In some sections, upon the high land, the cane fields have the appearance of having been visited by fire, so parched and shrunken do the stalks appear. Some estates have already finished their crops and most of the remaining estates will finish about the middle of the coming month. Business of all kinds feels the effect of the bad crop and complaints are heard on every side.

China, Tien-Tsin.—Consul Bowman, writing March 10, states that his consular district embraces the two provinces, Chihli and Shansi, separated from each other by a mountain wall. Transportation is so expensive that little or no grain is shipped from Shansi. The products of that province are ordinarily sufficient only for home consumption. During recent years there have been no disastrous floods or droughts in that province, and there has, therefore, been prosperity among farming classes. In Chihli, the leading crops are wheat and millet. Chihli grain dealers state that the crops of last year were considerably larger than those of preceding years. In Tien-Tsin the market price of wheat is about $1.04 per bushel; yellow millet, 83 cents per bushel, and beans 67 to 72 cents per bushel.

Scotland, Dunfermline.—Commercial Agent Reid makes the following report upon the agricultural situation in his district:

The three months of the present year, ending March 31, have been remarkable for their general mildness. In January there was equal absence of sunshine and frost. Of the former the record showed two or three hours only. Frost was limited to one or two nights and light. Many days were warm, and influenza spread so rapidly, although mild, as to be, for a time, alarming. The fields remained green; sheep and

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oxen grazed as usual. A good deal of plowing was done. The unusual mildness of the weather caused apprehension. The mortality among the aged was marked. The health average was, however, good.

The month of February was stormy and colder and yet was mild. Some nights of limited frost helped the comminution of heavy upturned land. The second half of the month was full of sunshine. Everywhere the plow was busy and seeding was commenced under circumstances of unusual favor.

Early in March the sowing of all the white cereals had been commenced, and with the close of the month was completed with the exception of barley and oats. Harrowing, except in clay land where the absence of frost had left the upturned soil very hard, has been generally effective and easy. The close of March found the spring grain all in and plowing ended.

The only crop which touches American interests and derives a value therefrom is the potato. These will likely be abundant. The old varieties will give place to new varieties known as the "Maincrop" and the "Gruce." Except for exportation to America, the crop is unprofitable. The following quotation is from a reliable source:

"Unless the American demand revives and becomes large, it is sad to contemplate what must inevitably be the upshot with the greater portion of the potato stocks still in the hands of farmers. In other years they would have been freely given all round to live-stock; but this season turnips and other food have been so abundant, that to do so profitably is absolutely beyond the reach of almost every ordinary farmer.

"With prices at the low figures of from $6.25 to $7.50 per ton, the prospect is far from tempting to the farmer to put in more than the ordinary rotation crop. Even at these quotations it is a most difficult matter to find a really ready outlet."

Under such circumstances farmers are turning their attention to live-stock. The mild winter has favored sheep and the lamb "crop" is large. American restrictions will limit cattle importation and direct the attention of farmers elsewhere. But apparently more and more will dependence on field produce cease, or only as auxiliary to the more promising results of the raising of cattle.

New South Wales, Sydney.—Consul Griffen, under date of March 19, makes the following report upon the wheat harvest of 1890:

The yield has been the heaviest known in the history of the colony. According to the official returns the total product of wheat in the colony of New South Wales for the season 1890 was 6,460,000 bushels against only 1,450,503 bushels for 1889, an increase of 5,009,497 bushels. The number of acres under wheat for the former period was 407,400 against 304,803 for the latter. The average yield per acre for 1890 was 15.86 bushels, against 4.75 for 1889. The average of 15.86 was exceeded in 1887, when it was 17.37 bushels. The average per acre for the last twenty-eight years has been 12.88 bushels, that of 1883 and 1877 being 16.35 and 16.43 bushels respectively. The yield for the present harvest is therefore about 3 bushels over the average. Much disappointment is, however, felt that the yield has so far fallen short of the expectation. The prevalence of rust, which at one time was thought to be confined principally to the coast districts, appears to have extended to rich table lands in New England and other northern districts. It is said, however, that New South Wales has not suffered to the same extent as that of some of the other colonies. In South Australia it it reported that 5 bushels an acre were lost there. The money value of loss from rust is given by the minister for agriculture at £1,500,000 ($7,299,750). These figures may be exaggerated, nevertheless the evil remains, and unless checked will be more disastrous in the future than in the past.

The estimated consumption of wheat for 1890 is stated at 7,397,000 bushels and it is said 550,000 bushels will be required for seed. The total quantity of wheat required in New South Wales will be about 8,247,000 bushels and the deficit, 1,787,000 bushels, will have to be made up by importation. New South Wales, unlike South Australia

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and Victoria, has never grown a sufficient quantity of wheat for home consumption. The following table shows the yield for each decade in New South Wales since 1862:

Years.	Area under wheat.	Production.	Average per acre.	Years.	Area under wheat.	Production.	Average per acre.
	Acres.	*Bushels.*	*Bushels.*		*Acres.*	*Bushels.*	*Bushels.*
1862	123,468	1,606,034	13.01	1886	264,867	2,733,133	10.45
1872	154,030	2,229,642	14.48	1887	337,730	5,868,844	17.37
1882	221,887	3,405,966	15.35	1888	389,390	4,695,849	12.06
1883	247,361	4,042,395	16.35	1889	304,803	1,450,503	4.75
1884	289,757	4,345,437	15.00	1890	407,400	6,460,000	15.86
1885	275,225	4,271,304	15.52				

In 1889, owing to the failure of the harvest, New South Wales imported 5,100,000 bushels. Mr. Angus Mackay, agricultural instructor at the Technical College, is of opinion that Mr. Coghlan, the Government statistician, has overestimated the wheat harvest. He says that besides the great injury to the crop from rust much damage has been done to it by the heavy rains after it was stacked.

It is a constant source of wonder that a country so well adapted to the growth of wheat should even in the most favorable seasons produce so little. New South Wales alone has a territory of 200,000,000 acres, and it is said that fully 25,000,000 acres of this area are capable of growing wheat, and yet the largest area under that cereal is a little over 400,000 acres.

Victoria.—Consul Griffin also makes the following report, under the same date, upon the present condition of agriculture in that colony:

The government statist of Victoria has just issued his agricultural statistics for the harvest of 1889–'90. The yield of wheat, while much larger than that of last harvest, is lower than was expected. According to the returns now published, the area under wheat in Victoria was 1,171,104 acres and the yield was 11,304,516 bushels, against 8,647,709 bushels for the harvest of the previous year, thus showing for 1889–'90 an increase of 2,656,807 bushels. The total number of acres under oats was 234,884 and the yield was 5,611,395 bushels, against only 2,803,800 bushels for last year—an increase for 1889–'90 of 2,807,595 bushels.

The number of acres under hay was 449,515 and the yield was 666,839 tons, against 411,332 acres and a yield of 308,117 tons for 1888–'89, showing an increase for the present season of 38,183 acres and of 358,712 tons, or an average of 1.43 tons per acre to only .75 tons per acre for last year.

The area under potatoes was 46,238 acres and the yield 155,704 tons, against 131,149 to nsfrom 43,074 acres in 1888–'89—an increase of 20,555 tons for 1889–'90, or an average of 3.37 tons against 3.04 tons per acre in 1888–'89.

AREA UNDER CROP.

In regard to the wheat harvest it is estimated that there will be 2,753,873, bushels for export. The Melbourne Australasian estimates the available surplus at 3,361,857 bushels. The general statistical position as given by that journal is as follows:

	Bushels.	Bushels.
Yield of wheat harvest as per the Australian estimate		11,912,500
Year's consumption in Victoria, 1,135,000 persons, at 5½ bushels	6,526,250	
Seed for 1,248,000 acres, at 1½ bushels	1,560,000	
Exports of wheat and flour to March 8, as above	464,393	
		8,550,643
Leaving an exportable surplus of, say		3,361,857

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It will be seen that the yield of wheat according to the figures prepared by the Australasian is in excess of those given by the Government statist by 292,016 bushels.

The present quotations are for fair to good milling wheat 3*s.* 6*d.* (85 cents) to 3*s.* 7*d.* (87 cents.) per bushel. Other qualities brought relative prices. Flour is quoted up to £8 5*s.* ($40.15) per ton for stone-dressed, and £9 ($43.80) for roller-dressed and special brands £9 5*s.* ($45.02) per ton.

The shipments of breadstuffs from Victor ia on account of the present seasons are given at 12,439 tons.

TRANSPORTATION RATES.

FREIGHT RATES—RAILROAD COMPANIES.

CHANGES IN RATES.

No changes are reported in the rates upon agricultural products, Chicago to the sea-board, except wool, which has advanced from 50 to 65 cents per 100 pounds, in lots of 10,000 pounds or over. This places wool in the second class.

The St. Paul and Duluth Railroad Company report a decrease of one-half a cent per 100 pounds in the rates upon lumber and flax, Rush City to Duluth, as compared with the rates reported April 1, which were 7 and 10 cents respectively. This company also reports a decrease in the rates upon grain, except wheat, from Minneapolis and St. Paul of from 10 cents April 1, to 5 cents May 1, from Hinckley 9 to 5 cents, and from Kettle River 8½ to 5 cents.

The Chicago, Milwaukee and St. Paul Railway Company reports an increase in the rates upon grain other than wheat, in car load lots, of from 10 cents per 100 pounds April 1, to 12½ cents May 1; lumber from 10 to 14 cents, Chicago to St. Paul and Minneapolis, and from Chicago to Chamberlain a reduction in the rates upon live-stock as follows:

Class.	April 1.	May 1.
	Cents.	*Cents.*
Cattle, C. L	37½	35½
Hogs, C. L	45	42
Sheep, C. L	45	42
Horses, C. L	41½	39⅓

The Delaware, Lackawanna and Western Railroad Company reports an increase in the rates upon cattle of from 13½ April 1, to 15½ May 1, between New York and Buffalo, Oswego, Elmira, or Binghamton.

The following transportation companies report no important changes in their rates since last published: Pennsylvania Railroad Company; Pennsylvania lines (west of Pittsburgh); New York Central and Hudson River Railroad; Baltimore and Ohio Railroad; New York, Lake Erie and Western Railway; Chicago and Atlantic Railway; New York, Chicago and St. Louis Railroad; Grand Trunk Railway; Delaware, Lackawanna and Western Railroad (east and west bound); Chesapeake, Ohio and Southwestern Railroad; Lake Shore and Michigan Southern Railroad; Louisville and Nashville Railroad; Northern Pacific Railroad; Merchants' and Miners' Transportation Company; Old Dominion Steam-ship Company; Portland Steam Packet Company; Winsor Line.

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OPENING OF THE ERIE CANAL.

The Erie Canal was officially opened April 28, which was three days earlier than in 1889. In 1889 the canal was open from May 1 to November 30, or 213 days, the longest period of navigation since 1882, with the exception of 1886, when it was open 214 days.

The following statement shows the official date of opening and closing the Erie Canal and the number of days open, from 1877 to 1889, inclusive, with the opening date for 1890:

Years.	Canal opened.	Canal closed.	No. of days open.	Years.	Canal opened.	Canal closed.	No. of days open.
1877	May 8	Dec. 7	213	1884	May 7	Dec. 1	208
1878	Apr. 15	Dec. 7	237	1885	May 11	Dec. 1	204
1879	May 8	Dec. 6	212	1886	May 1	Dec. 1	214
1880	Apr. 20	Nov. 20	215	1887	May 7	Dec. 1	208
1881	May 18	Dec. 6	204	1888	May 10	Dec. 3	207
1882	Apr. 11	Dec. 7	241	1889	May 1	Nov. 30	213
1883	May 7	Dec. 1	208	1890	Apr. 28	.....	.....

The opening rates on wheat and corn were 4 and 3⅝ cents per bushel, respectively, the same as the opening rates for last year.

The collector of canal statistics at Buffalo furnishes the opening rates on wheat and corn for a series of years as follows:

Years.	Wheat.	Corn.	Years.	Wheat.	Corn.
	Cents.	*Cents.*		*Cents.*	*Cents.*
1880	7⅛	7	1886	6	5
1881	6⅛	6	1887	6	5⅛
1882	5⅛	5	1888	5	5⅛
1883	6	5⅛	1889	4	3⅝
1884	4⅛	4⅛	1890	4	3⅝
1885	5	4⅛			

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The Michigan Central Railroad Company reports a great many changes in the rates from Grand Rapids to Chicago, as shown in the following table:

Articles.	To Chicago from Grand Rapids.	
	April 1.	May 1.
Apples, green, O. R., P. P.:		
C. L	12	14½
L. C. L	19½	23½
Bacon, in barrels or casks:		
C. L	12	14½
L. C. L	14	16½
Beef, in barrels:		
C. L	12	14½
L. C. L	14	16½
Butter, in wood:		
C. L	26	32
L. C. L	26	32
Cheese, in boxes:		
C. L	19½	23½
L. C. L	19½	23½
Cotton, compressed in bales any quantity	14	16½
Fertilizers, in bags or barrels:		
C. L	9	11
L. C. L	14	16½
Flour:		
In barrels, 125 barrels and over	9	11
L. C. L	12	14½
Grain, other than wheat:		
C. L. (minimum weight, 24,000 pounds)	9	11
L. C. L	12	14½
Hams, in boxes, barrels, or casks:		
C. L	12	14½
L. C. L	14	16½
Hogs, dressed:		
C. L	23½	23½
L. C. L	32	32
Lard, in barrels or boxes:		
C. L	12	14½
L. C. L	14	16½
Lumber:		
C. L	9	11
L. C. L	14	16½
Pork:		
In barrels, C. L	12	14½
L. C. L	14	16½
Potatoes, O. R., P. P.:		
C. L	12	14½
L. C. L	14	16½
Salt:		
C. L	19	11
In barrels, L. C. L	12	14½
Tobacco, unmanufactured, in casks or hogsheads, any quantity	14	16½
Wheat:		
C. L. (minimum weight, 24,000 pounds)	9	11
In barrels, L. C. L	12	14½
Wool, in bales or sacks:		
C. L	19½	22
L. C. L	29½	36
Cattle:		
C. L	14	16½
L. C. L	29½	36
Horses:		
C. L	21½	32½
L. C. L	29½	36
Sheep, C. L. (minimum weight, S. D., 14,000 pounds; D. D., 18,000 pounds)	14	16½
Hogs, C. L. (minimum weight, S. D., 16,000 pounds; D. D., 22,000 pounds)	12	16½

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. P. P.—Prepaid. S. D.—Single deck. D. D.—Double-deck.

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CHICAGO, BURLINGTON AND QUINCY RAILROAD.

[Rates in effect May 1, 1890, in cents, per 100 pounds.]

Articles.	To St. Louis from—		To Chicago from—	
	Atchison, Kansas City, St. Joseph.	Omaha, Council Bluffs.	Atchison, Kansas City, St. Joseph.	Omaha, Council Bluffs.
Apples, in barrels or boxes, O. R., prepaid or guaranteed				
C. L.	20	20	25	25
L. C. L.	30	30	40	40
Bacon and hams:				
Packed, C. L.	7	7	12	12
In barrels, boxes, or crates, L. C. L.	25	25	30	30
Beef:				
Dried or pickled, in barrels or tierces, C. L.	7	7	12	12
Dried, in boxes, barrels, or crates, L. C. L.	25	25	30	30
Dressed, common cars, C. L.	13½	18½	18½	23½
Dressed, refrigerator cars, C. L.	13½	18½	18½	23½
Butter, in wood or tin, O. R.:				
C. L.	30	30	40	40
L. C. L.	40	40	60	60
Cheese, in boxes, tubs, or casks:				
C. L.	30	30	40	40
L. C. L.	40	40	60	60
Cotton, pressed in bales, any quantity	55	55	75	75
Fertilizers, N. O. S., in packages:				
C. L.	7	7	12	12
L. C. L.	25	25	30	30
Flour	17½	20	22½	25
Flour, in barrels (200 pounds per barrel) L. C. L.	25	25	30	30
Hides:				
Dry, in bundles, L. C. L.	55	55	75	75
Dry, C. L. (minimum weight, 10,000 pounds)	40	40	60	60
Green, in bundles, C. L.	20	20	25	25
Hogs dressed:				
Common cars, C. L.	13½	18½	18½	23½
Refrigerator cars, C. L.	13½	18½	18½	23½
Lard, in barrels or tierces:				
C. L.	7	7	12	12
L. C. L.	25	25	30	30
Lumber:				
Soft, C. L.	*8½	13	13	13
Hard, C. L.	*11½	16	16	16
(Except woods of value), L. C. L.	25	25	30	30
Pork, packed:				
C. L.	7	7	12	12
L. C. L.	25	25	30	30
Potatoes, N. O. S., in sacks or barrels, O. R.:				
C. L.	15	15	20	20
L. C. L.	25	25	30	30
Potatoes, sweet, O. R., L. C. L.	40	40	60	60
Tobacco, unmanufactured, in hogsheads or cases, L. C. L.	25	25	30	30
Wool:				
Compressed in bales, L. C. L.	30	30	40	40
In sacks, L. C. L.	40	40	60	60
Wheat, C. L.	17½	20	22½	25
Corn, rye, oats, and barley, C. L.	15	15	20	20
Horses, in standard cars, C. L.	†$10	†$40	†$60	†$60
Cattle, C. L.	‡9½	‡16½	12½	‡25
Sheep, S. D. or D. D., C. L.	14½	‡17½	22	‡25
Hogs, S. D. or D. D., C. L.	21½	‡17½	25	‡25

*When coming from connecting lines only. † Per car. ‡On through carload rates to Chicago the receiving agent will rebate $7.35 per car regardless of dimensions, and to St. Louis $4.80 per car.
C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified. S. D.—Single-deck. D. D.—Double-deck.

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JOINT THROUGH FREIGHT RATES.

CHICAGO, BURLINGTON AND QUINCY RAILROAD, ILLINOIS CENTRAL RAILROAD AND VANDALIA LINE, CHICAGO AND ALTON RAILROAD, WABASH RAILWAY, CHICAGO AND EASTERN ILLINOIS RAILROAD AND CONNECTIONS.

[Rates in effect May 1, 1890, in cents per 100 pounds.]

Articles.	From Chicago to—				To Chicago from—			Between Chicago and—		
	Helena.	Arkansas City.	Dardanelle.	Roseville.	Helena and Arkansas City.	Dardanelle.	Roseville.	Little Rock and Pine Bluff.	Fort Smith.	Bald Knob.
Agricultural implements: C. L	49	49	63	55	49	63	55	55	55	50
Light and bulky, N. O. S.; K. D., flat; in bundles, L. C. L	120	120	141	135	120	141	135	125	135	115
Apples, O. R., straight or mixed, car-loads	37	37	46	36	37	50	43	31	36	31
Bacon, hams, and shoulders, packed, mixed: C. L	27½	37½	44	36	49	63	55	30	30	30
L. C. L	27½	44½	82	67	62	82	67	67	67	60
Beans and peas, dried: In barrels or in bulk, C. L	46	46	67	55	46	67	55	53	53	48
In barrels, L. C. L	62	62	82	67	62	82	67	67	67	60
Beef, pickled: C. L	27½	37½	44	36	49	63	55	30	30	30
L. C. L	27½	44½	82	67	62	82	67	67	67	60
Butter, in wood or tin, O. R.: C. L	75	75	103	91	75	103	91	86	91	74
L. C. L	96	96	117	110	96	117	110	105	110	93
Cheese, in boxes, tubs, or casks: C. L	75	75	103	91	75	103	91	86	91	74
L. C. L	96	96	117	110	96	117	110	105	110	93
Cotton-seed ashes and hulls, C. L	15	15	23	19	15	23	19	16½	17½	16½
Flour, meal, hominy, and grits, C. L	*55	35	38	36	.....	.....	.....	26	26	26
Fruit: Dried, N. O. S., straight or mixed car-loads	49	49	63	55	49	63	55	55	55	50
Green, N. O. S., O. R., P. P., or guaranteed, L. C. L	120	120	141	135	120	141	135	125	135	115
Tropical, straight or mixed car-loads	49	49	63	55	49	63	55	55	55	50
Grain, bran, and mill feed: C. L	37½	37½	38	36	.....	.....	.....	26	26	26
L. C. L	44½	44½	.....	.....	.....	.....	.....	.....	.....	.....
Hides: Dry, pressed in bales, C. L. (minimum weight, 10,000 pounds)	62	62	82	67	62	82	67	67	67	60
Dry, in bundles, L. C. L	120	120	141	135	120	141	135	125	135	115
Green, in bundles, C. L	46	46	67	55	46	67	55	53	53	48
Green, in bundles, L. C. L	75	75	103	91	75	103	91	86	91	74
Hops, L. C. L	96	96	117	110	96	117	110	105	110	93
Lard or tallow: C. L	27½	37½	44	36	49	63	55	30	30	30
L. C. L	27½	44½	82	67	62	82	67	67	67	60
Lumber: C. L	30	30	46	38	.....	.....	.....	†26½	†29	†23
(Except woods of value) L. C. L	62	62	82	67	62	82	67	67	67	60
Meats, canned, and meats, dried or salted, C. L	27½	37½	44	36	49	63	55	30	30	30
Pork, packed: C. L	27½	37½	44	36	49	63	55	30	30	30
L. C. L	27½	44½	82	67	62	82	67	67	67	60
Potatoes, O. R., straight or mixed car-loads	37	37	46	36	37	50	43	31	36	31
Salt: C. L	18	.....	34	31	.....	.....	.....	29	29½	24
In sacks, boxes, or barrels, L. C. L	62	62	82	67	62	82	67	67	67	60
Tobacco, unmanufactured: In hogsheads, L. C. L	62	62	82	67	62	82	67	67	67	60
In bales, L. C. L	96	96	117	110	96	117	110	105	110	93
Vegetables, straight or mixed car-loads	37	37	46	36	37	50	43	31	36	31
Wool: Any quantity	120	120	141	135	120	141	135	125	135	115
In sacks (minimum weight, 20,000 pounds)	110	110	131	125	110	131	125	115	125	105
Pressed in square bales (minimum weight, 20,000 pounds)	105	105	126	120	105	126	120	110	120	100
Fertilizers: C. L	29	20	39	37	29	39	37	27	31	27
N. O. S., in packages, L. C. L	62	62	82	67	62	82	67	67	67	60

*Per barrel. †South bound only. C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified, K. D.—Knocked down. O. R.—Owner's risk. P. P.—Prepaid.

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THE TRANS-MISSOURI FREIGHT ASSOCIATION.

[Rates in effect May 1, 1890.]

Articles.	From Denver, Colorado Springs, Pueblo, and Trinidad, Colo., and points taking Denver rates, to—				To Denver, Colorado Springs, Pueblo, and Trinidad, Colo., and points taking Denver rates, from—			
	Chicago, Ill., Memphis, Tenn.	St. Paul and Minneapolis, Minn.	Peoria, Ill.	East St. Louis, Ill., St. Louis, Mo.	Chicago, Ill., Memphis, Tenn.	St. Paul and Minneapolis, Minn.	Peoria, Ill.	East St. Louis, Ill., St. Louis, Mo.
Agricultural implements: (Except hand) C. L. ..... per 100 lbs..	$1.15	$1.07	$1.11½	$1.07½	$1.10	$1.07	$1.06½	$1.02½
N. O. S., K. D., flat, in bundles, L. C. L ..... per 100 lbs..	2.30	2.15	2.20	2.10	2.20	2.15	2.10	2.00
Apples, in barrels or boxes, O. R., P. P. or guaranteed, C. L. ..... per 100 lbs..	1.00	.93	.97½	.95	.93	.93	.90½	.88
Bacon, hams, and shoulders, packed, C. L. ..... per 100 lbs..	.87	.87	.87	.82	.93	.93	.90½	.88
Beans and peas, dried, in barrels or in bulk, C. L. ..... per 100 lbs..	1.00	.93	.97½	.95	.93	.93	.90½	.88
Beef, pickled, and pork, packed: C. L., per 100 lbs	.87	.87	.87	.82	.93	.93	.90½	.88
L. C. L. ..... per 100 lbs..	1.20	1.15	1.17½	1.15	1.15	1.15	1.12½	1.10
Butter, in wood or tin, O. R.: C. L. .do....	1.50	1.42	1.45	1.40	1.45	1.42	1.40	1.35
L. C. L. ..... do....	1.90	1.75	1.80	1.70	1.80	1.75	1.70	1.60
Cheese, in boxes, tubs, or casks: C. L., per 100 lbs	1.50	1.42	1.45	1.40	1.45	1.42	1.40	1.35
L. C. L. ..... per 100 lbs..	1.90	1.75	1.80	1.70	1.80	1.75	1.70	1.60
Corn, oats, rye, barley, or mill stuffs, C. L ..... per 100 lbs..	.....	.....	.....	.....	.50	.45	.47½	.45
Corn meal, C. L. ..... do....	.....	.....	.....	.....	.50	.45	.47½	.45
Cotton-seed cake and meal, C. L. .....do....	.....	.....	.....	.....	.50	.45	.47½	.45
Cotton-seed oil, C. L. ..... do....	.....	.....	.....	.....	.68	.68	.65½	.63
Fertilizers (except guano), C. L. .....do....	.41	.41	.41	.36	.53	.52	.50½	.48
Flour, C. L. ..... do....	.55	.52½	.52½	.50	.55	.52½	.52½	.50
Fruit: Dried, N. O. S., C. L ..... do....	1.20	1.15	1.17½	1.15	1.15	1.15	1.12½	1.10
Green, N. O. S., O. R., P. P. or guaranteed, C. L. ..... per 100 lbs..	1.50	1.42	1.45	1.40	1.45	1.42	1.40	1.35
Tropical, straight or mixed, C. L. do....	.....	.....	.....	.....	.90	.90	.85½	.81½
Hides and sheep pelts, dry, C. L. (minimum weight 10,000 pounds) ..... per 100 lbs..	1.90	1.75	1.80	1.70	1.80	1.75	1.70	1.60
Hides: Dry, in bundle, L. C. L. ..... do ..	2.30	2.15	2.20	2.10	2.20	2.15	2.10	2.00
Green, C. L ..... do ..	.87	.87	.87	.82	.93	.93	.90½	.88
Lard: In crocks, buckets, boxes, barrels, or casks, C. L ..... per 100 lbs..	.87	.87	.87	.82	.93	.93	.90½	.88
In barrels or tierces, L. C. L. .....do....	1.20	1.15	1.17½	1.15	1.15	1.15	1.12½	1.10
Logs and woods of value, in the rough, C. L ..... per 100 lbs..	1.00	1.00	1.00	1.00	.....	.....	.....	.....
Meats: Fresh, O. R., P. P. or guaranteed, C. L ..... per 100 lbs..	1.28½	1.31	1.26	1.23½	.98½	.98½	.96	.93½
Canned, dried, or salted, C. L .....do....	.87	.87	.87	.82	.93	.93	.90½	.88
Oranges: C. L. ..... do....	1.10	1.10	1.10	1.10	.....	.....	.....	.....
Lemons and vegetables, mixed, C. L., per 100 lbs	1.25	1.25	1.25	1.25	.....	.....	.....	.....
Potatoes: N. O. S., C. L. ..... per 100 lbs..	.55	.50	.52½	.50	.65	.65	.62½	.60
In sacks or barrels, L. C. L ..... do....	1.20	1.15	1.17½	1.15	1.15	1.15	1.12½	1.10
Sweet, C. L ..... do....	.75	.70	.72½	.70	.65	.65	.62½	.60
Salt: C. L ..... do....	.....	.....	.....	.....	.50	.49	.47½	.46½
In sacks, boxes, or barrels, L. C. L. do....	1.20	1.15	1.17½	1.15	1.15	1.15	1.12½	1.10
Tobacco, unmanufactured, in hogsheads or cases, L. C. L ..... per 100 lbs..	1.20	1.15	1.17½	1.15	1.15	1.15	1.12½	1.10
Wheat and flaxseed, C. L ..... do....	.57½	.55	.55	.52½	.57½	.55	.55	.52½
Wool: In sacks, any quantity ..... do....	1.85	1.85	1.75	1.65	.....	.....	.....	.....
Machine compressed, C. L. (minimum weight 10,000 pounds) ... per 100 lbs..	1.50	1.50	1.45	1.40	.....	.....	.....	.....
Horses, in standard cars, C. L. ..... per car..	108.00	108.00	99.25	90.50	115.00	115.00	106.25	97.50
Cattle, in standard cars, C. L. ..... do....	86.00	86.00	86.00	68.50	105.00	103.00	96.25	87.50
Sheep: D. D., in standard cars, C. L. .do....	98.00	98.00	89.25	80.50	105.00	103.00	96.25	87.50
S. D., in standard cars, C. L. ..... do....	58.80	58.80	50.05	48.30	63.00	59.00	57.75	52.50
Hogs, S. D., in standard cars, C. L. .....do....	98.00	98.00	89.25	80.50	.....	.....	.....	.....

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified. K. D.—Knocked down. O. R.—Owner's risk. P. P.—Prepaid. D. D.—Double deck. S. D.—Single deck.

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JOINT THROUGH FREIGHT RATES.

THE CENTRAL TRAFFIC ASSOCIATION, SOUTHERN INTERSTATE ASSOCIATION AND SOUTHERN PACIFIC COMPANY.

[Rates in effect May 1, 1890, in cents, per 100 pounds.]

Articles.	From East St. Louis to—		From Chicago to—	
	Austin, Dallas, Fort Worth, San Antonio, Sherman, Texarkana Junction, and Waco, Tex., Baton Rouge and Shreveport Junction, La.	Texarkana, Tex.	Austin, Dallas, Fort Worth, San Antonio, Sherman, Texarkana Junction, and Waco, Tex., Baton Rouge and Shreveport Junction, La.	Texarkana, Tex.
Agricultural implements:				
C. L.	79	72	84	77
Light and bulky, N. O. S., K. D. flat, in bundles, L. C. L.	144	141	153	150
Apples, green:				
Straight car-loads	58	50	62	54
Straight or mixed car-loads	.....	50	.....	54
Bacon, hams, and shoulders, packed:				
Straight car-loads	73	61	77	65
Mixed car-loads	79	62	84	67
Beans and peas, dried:				
In barrels or in bulk, C. L.	73	67	77	71
In barrels, L. C. L.	95	88	100	93
Beef, dried or pickled:				
Straight car-loads	73	61	77	65
Mixed car-loads	79	62	84	67
Butter, in wood or tin, O. R.:				
C. L.	107	103	113	109
L. C. L.	126	124	133	131
Cheese, in boxes, tubs, or casks:				
C. L.	107	103	113	109
L. C. L.	126	124	133	131
Cotton-seed ashes and hulls, C. L. (minimum weight, 20,000 pounds)	25½	24	27	25½
Fertilizers, N. O. S., in packages:				
C. L.	42	40	45	43
L. C. L.	95	88	100	93
Flax, hemp, or millet seed, straight or mixed with grain	49	44	52	47
Flour, meal, hominy, and grits, C. L.	54	49	57	52
Fruit:				
Dried, N. O. S., straight or mixed car-loads	79	72	84	77
Green, N. O. S., P. P. or guaranteed, C. L.	107	103	113	109
Tropical, straight or mixed car-loads	79	72	84	77
Grain, bran, and mill feed, C. L.	49	44	52	47
Hides:				
Dry, pressed in bales, C. L. (minimum weight 10,000 pounds)	95	88	100	93
Dry in bundles, L. C. L.	144	141	153	150
Green, in bundles, C. L.	73	67	77	71
Green, in bundles, L. C. L.	107	103	113	1 9
Hops: C. L. (minimum weight 20,000 pounds)	63	57	67	61
Lard or tallow:				
Straight car-loads	73	61	77	65
Mixed car-loads	79	62	84	67
Lumber:				
C. L.	51	48	54	51
Except woods of value, L. C. L.	95	88	100	93
Potatoes, straight or mixed car-loads	63	50	67	54
Salt:				
C. L.	43	30	46	33
In sacks, boxes, or barrels, L. C. L.	95	88	100	93
Tobacco, unmanufactured:				
In hogsheads, C. L.	73	67	100	93
In bales	126	124	133	131
Vegetables, O. R., straight or mixed car-loads	63	50	67	54
Wool:				
Any quantity	144	141	153	150
In sacks (minimum weight 20,000 pounds)	134	131	143	140
Pressed in square bales (minimum weight 20,000 pounds)	129	126	138	135

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified. K. D.—Knocked down. O. R.—Owner's risk. P. P.—Prepaid.

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JOINT THROUGH FREIGHT RATES

THE CENTRAL TRAFFIC ASSOCIATION, SOUTHERN INTERSTATE ASSOCIATION, AND SOUTHERN PACIFIC COMPANY.

[Rates in effect May 1, 1890, in cents, per 100 pounds.]

Articles.	To East St. Louis from—		To Chicago from—	
	Austin, Dallas, Fort Worth, San Antonio, Sherman, Texarkana Junction, and Waco, Tex., Baton Rouge and Shreveport Junction, La.	Texarkana, Tex.	Austin, Dallas, Fort Worth, San Antonio, Sherman, Texarkana Junction, and Waco, Tex., Baton Rouge and Shreveport Junction, La.	Texarkana, Tex.
Agricultural implements:				
C. L	79	72	84	77
Light and bulky, N. O. S., K. D., flat, in bundles, L. C. L	144	141	153	150
Apples, in any packages or in bulk, straight or mixed, C. L	63	57	67	61
Bacon, hams, and shoulders, packed, C. L	79	72	84	77
Beans and peas, dried:				
In barrels or in bulk, C. L	73	67	77	71
In barrels, L. C. L	95	88	100	93
Beef:				
Dried or pickled, C. L	79	72	84	77
Fresh, O. R., P. P., or guaranteed, C. L	107	103	113	109
Fresh, O. R., P. P., or guaranteed, L. C. L	144	141	153	150
Butter, in wood or tin, O. R.:				
C. L	107	103	113	109
L. C. L	126	124	133	131
Cheese, in boxes, tubs, or casks:				
C. L	107	103	113	109
L. C. L	126	124	133	131
Cotton-seed oil, C. L	38	.....	42	.....
Cotton-seed cake and meal, C. L	28	.....	32	.....
Fertilizers, N. O. S., in packages:				
C. L	42	40	45	43
L. C. L	95	88	100	93
Fruit:				
Dried, N. O. S., straight or mixed car-loads	79	72	84	77
Green, N. O. S., P. P. or guaranteed, C. L	107	103	113	109
Tropical, straight or mixed car-loads	79	72	84	77
Grain, N. O. S., bran, shorts, mill feed and mill stuffs, straight or mixed, C. L	33	.....	36	
Hides:				
Dry, pressed in bales, C. L. (minimum weight 10,000 pounds)	95	88	100	93
Dry in bundles, L. C. L	144	141	153	150
Green, in bundles, C. L	73	67	77	71
Green, in bundles, L. C. L	107	103	113	109
Hops:				
C. L. (minimum weight, 20,000 pounds)	63	57	67	61
L. C. L	126	124	133	131
Lard or tallow:				
In mixed car-loads	79	72	84	77
In straight car loads	73	67	77	71
Lumber (except woods of value) L. C. L	95	88	100	93
Melons and Texas vegetables, in straight or mixed C. L	48	.....	52	.....
Salt, in sacks, boxes or barrels, L. C. L	95	88	100	93
Tobacco, unmanufactured:				
In hogsheads, L. C. L	95	88	100	93
In bales, L. C. L	126	124	133	131
Vegetables, O. R., straight or mixed car-loads	.....	57	.....	61
Wool:				
Any quantity	144	141	153	150
In sacks (minimum weight 20,000 pounds)	134	131	143	140
Pressed in square bales (minimum weight 20,000 pounds)	129	126	138	135
Walnut logs, C. L	42	40	45	43

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified. K. D.—Knocked down. O. R.—Owner's risk. P. P.—Prepaid.

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ILLINOIS CENTRAL RAILROAD.

[Rates in effect May 1, 1899.]

Articles.	To Chicago from—			From Chicago to—		
	East St. Louis.	Cairo.	New Orleans.	East St. Louis.	Cairo.	New Orleans.
Agricultural implements (except hand), C. L	$0.13	$0.20	$0.40	$0.13	$0.20	$0.31
Apples, in barrels or boxes, O. R., P. P., or guaranteed:						
C. L	.14	.18	.495	.14	.18	.31
L. C. L	.20	.25	.55	.20	.25	.41
Bacon, hams, and shoulders, packed:						
C. L	.10	.20	.31	.10	.20	.25
L. C. L	.20	.25	.31	.20	.25	.34
Beans and peas, dried, in barrels or in bulk, C. L	.10	.20	.46	.10	.20	.31
Beef, pickled:						
C. L	.10	.20	.31	.10	.20	.25
L. C. L	.20	.25	.31	.20	.25	.41
Butter, in wood or tin, O. R.:						
C. L	.20	.25	.73	.20	.25	.75
L. C. L	.29	.39	.73	.29	.39	.75
Cheese, in boxes, tubs, or casks:						
C. L	.20	.25	.55	.20	.25	.58
L. C. L	.38	.48	.55	.38	.48	.58
Flour, in barrels:						
C. L per bbl	.20	.30 20/100	.50	.20	.30 20/100	.57
L. C. L do	.40	.50	.50	.40	.50	.57
Fruit, dried, N. O. S., in cans, barrels, boxes, or sacks, released:						
C. L	.15	.25	.73	.15	.25	.31
L. C. L	.29	.39	.73	.20	.39	.58
Fruit, green, N. O. S., O. R., P. P., or guarantied:						
C. L	.15	.20	.....	.15	.20	.31
L. C. L	.47	.59	.....	.47	.50	.41
Hides, dry, in bundles, L. C. L	.47	.50	1.00	.47	.59	.47
Hops, L. C. L., in iron casks	.38	.48	.55	.38	.48	.90
Lard, in crocks, buckets, boxes, barrels, or, casks, C. L	.10	.20	.31	.10	.20	.25
Lard, in barrels or tierces, L. C. L	.20	.25	.31	.20	.25	.34
Lumber, hard, C. L	.08	.09	.26	.10	.12	.31
Lumber, soft, C. L	.08	.09	.26	.10	.12	.31
Lumber (except woods of value), L. C. L	.20	.25	.55	.20	.25	.58
Meats, fresh, C. L	.16½	.25	.36	.16½	.25	.51
Pork, packed:						
C. L	.10	.20	.31	.10	.20	.25
L. C. L	.20	.25	.31	.20	.25	.34
Potatoes, N. O. S., in sacks or barrels, O. R.:						
C. L	.12	.13 77/100	.40	.12	.13 77/100	.31
L. C. L	.20	.25	.45	.20	.25	.41
Salt, in sacks, barrels, or in bulk, C. L	.15	*.25	.20	.15	*.25	*.73
Salt, in sacks, boxes, or barrels, L. C. L	.20	.25	.40	.20	.25	.41
Tobacco, unmanufactured, in hogsheads or casks, L. C. L	.20	.25	.55	.20	.25	.35
Tobacco, unmanufactured, in bales, L. C. L	.38	.50	.....	.38	.50	.41
Flax, C. L	.13	.15 1/10	.....	.13	.15 1/10	.75
Hemp and millet, C. L	.20	.25	.40	.25	.20	.41
Wheat, C. L	.13	.15 1/10	.25	.13	.15 1/10	.26
Corn, rye, oats, and barley, C. L	.08	.13 77/100	.25	.08	.13 77/100	.26
Wool, in sacks, L. C. L	.38	.48	.55	.38	.48	1.10
Wool, compressed, in bales, L. C. L	.29	.39	.55	.29	.39	.75
Horses and mules, in ordinary cars, C. L	.15 4/10	.17 8/10	†100.00	.15 4/10	.17 8/10	†112.00
Cattle, C. L	.14	.16	†75.00	.14	.16	†87.00
Hogs, C. L	.19	.20	†75.00	.19	.20	†87.00
Sheep, C. L	.20	.22	†75.00	.20	.22	†87.00

*Barrels. †Per car.

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YAZOO AND TALLAHATCHIE TRANSPORTATION COMPANY.

[Rates in effect May 1, 1890.]

Articles.	Vicksburg, Miss., to—				
	All landings below Yazoo City.	Yazoo City.	Silver Creek and Tchula.	Riverside and Greenwood.	Tallahatchie River.
Apples, green, in barrels, per bbl.	$0.20	$0.20	$0.20	$0.20	$0.25
Apples and peaches, dried, per 100 lbs.	.12½	.12½	.12½	.12½	.15
Bacon, packed, do.	.10	.10	.10	.10	.12½
Beans, in barrels, boxes, or sacks, do.	.12½	.12½	.12½	.12½	.15
Beef and pork, per bbl.	.35	.30	.35	.35	.40
Beef, smoked, in boxes or barrels, per 100 lbs.	.17½	.15	.17½	.17½	.20
Butter, in wood, do.	.17½	.15	.17½	.17½	.20
Cheese, do.	.17½	.15	.17½	.17½	.20
Corn meal, per bbl.	.20	.15	.20	.20	.25
Cotton, in bales, per bale.	.75	.75	.75	.75	1.00
Flour, in barrels, per bbl.	.20	.15	.20	.20	.25
Fruit, dried, not otherwise specified, per 100 lbs.	.17½	.17½	.17½	.17½	.20
Grain, do.	.10	.10	.10	.10	.12½
Hides:					
Dry, loose, or in bundles, do.	15	.15	.15	.15	.20
Dry, in bales, do.	.15	.15	.15	.15	.20
Green, do.	.15	.15	.15	.15	.20
Lard, in buckets, tierces, kegs, or cases, do.	.10	.10	.10	.10	.12½
Lumber, per 1,000 ft.	4.00	4.00	5.00	6.00	6.00
Oranges and lemons, per 100 lbs.	.15	.15	.15	.15	.20
Potatoes, in barrels, per bbl.	.20	.15	.20	.20	.25
Salt, per sack.	.20	.20	.20	.20	.25
Salt, table, per 100 lbs.	.10	.10	.10	.10	.12½

NORWICH AND NEW YORK TRANSPORTATION COMPANY.

[Rates in effect May 1, 1890.]

Articles.	New York to—			
	Boston.	Worcester.	Norwich.	New London.
Apples, per barrel.	$0.24	$0.25	$0.15	$0.15
Bacon, per 100 pounds.	.12	.12	.10	.10
Beef, do.	.17	.15	.12	.12
Butter, do.	.20	.22	.15	.15
Cheese, do.	.18	.18	.14	.14
Cotton, do.	.11	.15	.12	.12
Fertilizers, do.	.11	.14	.11	.11
Flour, do.	.09	.11	.14	.14
Hams, do.	.12½	.15	.12	.12
Hogs, dressed, do.	.12½	.15	.12	.12
Lard, do.	.12½	.15	.12	.12
Pork, do.	.12½	.15	.10	.10
Potatoes, do.	.10	.15	.12	.12
Salt, do.	.10	.12	.10	.10
Tobacco, unmanufactured, in hogsheads, do.	.14	.18	.16	.16
Wool:				
Compressed, do.	.18	.20	.14	.14
Not compressed, do.	.30	.33	.16	.16
Grain, do.	.12	.15	.07	.07
Cattle, single, horses, per head.	10.00	11.00	4.00	4.00

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OCEAN STEAM-SHIP COMPANIES.

[Rates in effect May 1, 1890.]

Articles.	White Star Line, New York to Liverpool.	Inman Line, New York to Liverpool.	Guion Line, New York to Liverpool.	Anchor Line, New York to Glasgow.
Wheat.....per bushel..	$0.04	$0.04	$0.04	$0.05
Corn.....do.....	.04	.04	.04	.05
Flour.....per barrel..	.30	.36	.36	.36
Flour (in sacks).....per 2,240 pounds..	2.40	3.00	2.40	3.00
Bacon.....do.....	3.60	3.60	3.60	5.40
Lard.....do.....	3.00	3.60	3.00	5.40
Cheese.....do.....	6.00	6.00	4.80 to 6.00	8.40
Tallow.....do.....	2.40	3.00	3.00	4.80
Beef.....per tierce..	.60	.72	.60	1.08
Pork.....per barrel..	.42	.48	.48	.72
Oil-cake.....per 2,240 pounds..	2.40	2.40	2.40	3.00
Cotton.....per pound..	*.00 3/16	.00 3/16	.00 3/16	.....
Hops.....do.....	.00 1/2	.01	.00 1/2	.00 1/2
Tobacco.....per hogshead..	4.80	4.80	4.80	4.80 to 5.40
Rosin.....per 280 pounds..	.26	.48	.....	.36
Lard (in small packages).....per 2,240 pounds..	7.20	6.00	4.80	6.00
Tobacco (in cases).....per 40 cubic feet..	3.60	3.60	4.80	4.80
Apples.....per barrel..	.60	.72	.72	.84
Hams.....per 2,240 pounds..	3.60	3.60	3.60	5.40
Butter.....do.....	7.20	7.20	6.00 to 7.20	8.40
Measurement per ton (40 cubic feet).....	2.40 to 6.00	3.60 to 4.80	3.60	4.80
Primage.....per cent..	5	5	5	5

Articles.	North German Lloyd Steam-ship Company, New York to Bremen.	General Transatlantic Company, New York to Havre.
Wheat.....per 100 pounds..	$0.18	*$0.10
Corn.....do.....	.18	*.10
Flour.....per barrel..	.70	1.00
Flour (in sacks).....per 100 pounds..	.22	.30
Bacon.....do.....	.24	.....
Lard.....do.....	.24	.30
Cheese.....do.....	.60	.30
Tallow.....do.....	.24	.30
Beef.....per tierce..	1.25	1.25
Pork.....per barrel..	1.00	1.00
Oil-cake.....per 100 pounds.	.22	.30
Cotton.....per pound..	†.00 1/2	.00 1/2
Hops.....do.....	†.01	.....
Tobacco.....per hogshead..	6.00	8.00
Rosin.....per 280 pounds..	.60	.....
Lard (in small packages).....per 100 pounds..	.36	.40 to .50
Tobacco (in cases).....per case..	1.50	†8.00
Apples.....per barrel..	1.00	.80
Hams.....per 100 pounds..	.25	.....
Butter.....do.....	.60	.....
Measurement per ton (40 cubic feet).....	4.80 to 10.00	10.00
Primage.....per cent..	.....	5

* Per bushel. † And 5 per cent. primage. ‡ Per 40 cubic feet.

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DEPARTMENT OF AGRICULTURE.
REPORT OF THE STATISTICIAN.
New Series. Report No. 74.

REPORT

ON THE

ACREAGE OF WHEAT AND COTTON,

AND

CONDITION OF CEREAL CROPS,

AND ON

FREIGHT RATES OF TRANSPORTATION COMPANIES.

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

JUNE, 1890.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1890.

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JUNE REPORT.

DEPARTMENT OF AGRICULTURE,
June 12, 1890.

SIR: I have the honor of submitting for publication the June report, which embodies returns of comparative acreage of cotton, wheat, oats, rye, and barley, and of the condition of cotton, wheat, rye, barley, oats, clover, pasturage, apples, and peaches.

The report also contains miscellaneous statistics on various subjects, including a review of the progress of cotton-growing in the world and a record of consumption and production; a statement of the status of wool-growing and an analysis of the course of importation by classes, indicating the decline of the combing or high price class and the increase of the wools of the world inaccurately classed in a mass as carpet wools; an analysis of the course of prices for thirty years, showing the fluctuations that come with large and small crops, and that present prices are not invariably the lowest of the series; and, among other matters, an interesting history of some of the results of co-operative milling in Colorado, especially those of the Longmont Farmers' Milling and Elevator Company.

The report of our European Statistical Agent, the Deputy Consul General at London, for June, is submitted.

The usual statements of current freight rates of land and water transportation companies are herewith presented.

Respectfully,

J. R. DODGE,
Statistician.

Hon. J. M. RUSK,
Secretary.

CROP REPORT FOR JUNE.

WHEAT.

The average farm price of wheat in December last was lower than that of the previous short crop, but slightly higher than those of the two preceding crops, and 5.3 cents higher than the price in December, 1885. It is evident, from the gradual decrease of foreign stocks and

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the reduced production in several countries, that wheat will soon bring better prices, unless the aggregate of production shall be increased. This feeling has permeated the agricultural mind, and led to a belief in early improvement, and has also induced an increase of wheat area, to which the frosts of March have kindly interposed a bar, which will benefit producers as a whole, but not the individual sufferers.

While several States increased the area of winter wheat last autumn, the heavy reduction, by plowing and planting in other crops to replace the winter-killed wheat in Illinois, in Indiana, and to a limited extent in other States, has reduced the acreage in every wheat-growing State of any prominence except Kansas and Oregon. The percentages represent the actual area now growing in comparison with the acreage harvested last year, and include all that was seeded last fall except what has been replaced by other crops. The general average is 91.2, a reduction of 8.8 per cent. of last year's winter-wheat area.

The percentages of the principal States are as follows: New York, 98; Pennsylvania, 99; Virginia, 97; Georgia, 88; Texas, 75; Kentucky, 94; Ohio, 95; Michigan, 90; Indiana, 89; Illinois, 76; Missouri, 96; Kansas, 109; California, 80; Oregon, 103.

An increase in acreage of spring wheat is reported, except in Wisconsin and Dakota. The percentages are: Wisconsin, 97; Minnesota, 118; Iowa, 104; Nebraska, 105; the Dakotas, 95. There is also increase in Colorado, Washington, and the Territories. The general percentage is 103.8. Taking winter and spring wheat together, the percentage of last year's breadth is 95.4, showing a net loss of nearly 1,750,000 acres. The estimated area of 1889 was 38,123,859 acres.

Condition of growing winter wheat has declined from 80 to 78.1 since the first of May. Slight improvement is noticed in New York and Pennsylvania, and in Ohio and California. In Indiana, Illinois, and Texas it remains at the same low figures of last month. Decline is apparent in Michigan, Missouri, and Kansas, and in nearly all the Southern States. The plants are generally thin on the ground and lacking in development. The patches of bare spots are more conspicuous as the season progresses. The averages of condition of principal States are: New York, 93; Pennsylvania, 98; Virginia, 87; Georgia, 55; Texas, 67; Tennessee, 72; Kentucky, 86; Ohio, 84; Michigan, 69; Indiana, 63; Illinois, 64; Missouri, 77; Kansas, 80; California, 86; Oregon, 91. The following are some of the spring-wheat percentages of condition: Wisconsin, 82; Minnesota, 97; Iowa, 93; Nebraska, 85; Dakota, 90; Colorado, 99. The average of the entire spring-wheat breadth is 91.3.

The following extracts from reports of correspondents relate to wheat, both winter and spring:

NEW JERSEY.—*Cumberland:* Is badly infested by the aphis, or louse, which is sucking the sap from the straw, causing it to turn yellow; it also seems to be affected by some new form of rust or fungus, causing the blades to turn red to the top of the plant, making the field appear as if fire had passed through it. *Middlesex:* Is affected to some extent by lice, which causes the leaves to turn yellow; the heads are out

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and look well. *Monmouth:* Condition lowered since May 1 by ravages of aphis, or wheat-louse, with prospects that it will go still lower from the same cause. *Salem:* Is improving just at present; has been infested with a green louse for the past four weeks. *Warren:* Never looked better at this season; some complaint of the wheat-louse, but no perceptible damage has been done. *Camden:* Has shown no improvement since last report; if not injured by aphis it may improve and fill well. *Cape May:* Injured by plant louse. *Gloucester:* Has fallen off since last report; has been attacked by green lice, particularly on light soils, some of the fields having the appearance of being ripe; what the outcome will be it is hard to say. *Mercer:* Is infested with lice to some extent, but no great damage looked for. *Morris:* A good stand; no insects reported. *Hunterdon:* Above the average at present, but has been attacked by the wheat-louse, and what the result will be cannot be told.

PENNSYLVANIA.—*Juniata:* In some sections a green louse, supposed to be the aphis, is sapping the life of the wheat. The weather continues damp and appears to be favorable to the growth of wheat, and favorable to the louse also. *Schuylkill:* Doing very well. *Monroe:* Was never more promising, good stand and plant very strong. *Northampton:* In good condition, and promises a large yield with favorable weather; is now too wet and grain is beginning to lodge; appears to be no fly on wheat so far. *Sullivan:* Far exceeds the condition of last year at this time. *Wayne:* Looks well; up to full average. *Blair:* Is very good, and if no mishap occurs between now and harvest we shall have the largest crop known for years; is now heading, an unusual occurrence for May. *Columbia:* Looks very favorable. *Fayette:* Notwithstanding the extreme wet weather and lack of snow our crop is a very promising one; during the cold snap in March we had about 8 inches of snow, which saved our wheat from almost certain ruin. *Greene:* If nothing interferes there will be the best crop ever grown in the county. *Lebanon:* Rust has appeared on the wheat, and with continued wet weather will certainly result in damage; the aphis is also appearing, and in great numbers, in some cases covering the leaves and head and threatening destruction; with clear and dry weather the rust would not spread, and the aphis would disappear, but at present the weather is threatening. *Northumberland:* A fair stand on high ground; on low, wet land is spotted. *Berks:* Looks excellent, but of late appears very mildewy. *Franklin:* Condition was never better, being fully 10 per cent. above the average. *Montour:* Has now headed and the prospect is fine. *Union:* Some complaint of fly. *Beaver:* Is looking well; was damaged by frost on low ground, but has picked up wonderfully in the last month. *Crawford:* Looks well; large in straw. *Cumberland:* Some rust appeared during the recent wet weather, but with a continuance of present fair weather will likely not do any material damage. *Fulton:* Is looking well, ground well covered; an insect resembling the "flip" made its appearance about May 15, but wet weather seems to have destroyed it entirely. *Indiana:* Very promising. *Venango:* Never looked better. *Washington:* Promises well. *Armstrong:* Favorable weather during April and May has enabled wheat to regain the ground lost in March. *Butler:* Presents a very fine appearance. *Potter:* Looks fine.

DELAWARE.—*Kent:* The peculiar effect of frosty nights and cold wet weather the last of April and first of May is still noticeable; the top blades changed color, became purple and then yellow; the plant is now in head; farmers believe the crop will be short, and some apprehend injury to the wheat from the inferior quality of the seed sown last autumn.

MARYLAND.—*Baltimore:* Is looking fine, with indications for a good harvest. *Howard:* There is an unsual quantity of red or purple blades near the top of the plant this year; do not know how to account for it. *Wicomico:* Was above an average up to two weeks since, when a fly appeared which has injured the prospect materially. *Harford:* Outlook not as promising as last month; too much wet weather. *Carroll:* With the exception of a little blight looks very promising; nearly all wheat is in full bloom; some danger of being injured by continued wet weather. *Kent:* A very large crop of wheat was expected this year, but from some cause it has not made the growth

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expected; if nothing unforeseen occurs we now hope for an average crop. *Somerset:* Owing to late frosts, insects, and other casualties, wheat started with a very yellow appearance, but since heading its apparent condition has improved considerably. *Caroline:* Looks badly from some cause. *Queen Anne's:* In some localities wheat has been injured by a green louse and affected by rust on upper blades. *St. Mary's:* Has improved during the last few days; will commence harvesting about June 10. *Talbot:* Wheat that promised an increased growth is only in moderate condition; the fair prospect has resulted in light growth, the foliage turned red and growth was checked; there are various opinions; some say fly, others think the heavy rain-falls followed by hot sunshine caused root rot. At present we have army worm, also some aphis. *Montgomery:* The wheat blade is of a bright red color, which it is thought was caused by frost or excessive moisture followed by heat; the present cool spell of weather has improved the appearance materially, and the prospect generally is very fine; heaviest straw for many years. *Calvert:* Up to a full average.

VIRGINIA.—*Accomack:* Injured by rust. *Albemarle:* Has fallen back very much within the last thirty days. *Amelia:* All through the winter wheat continued promising, but about the middle of March began to suffer from various causes; is now heading out in a very unpromising condition. *Bedford:* At last report the prospect for wheat was most promising; now the prospect is wretched; some intelligent farmers place the figures as low as 40 per cent. in large sections of the county; it is rare now to see a promising field; rust and low and irregular heading are general. *Floyd:* Is looking well; no damage by fly. *Hanover:* Is looking very badly and promises an exceedingly poor crop; has suffered from all the diseases incident to the crop, and except on very fertile lands the crop will be an unusually short one. *King George:* Has not recovered from March freezes, which did more injury than was then known. *Madison:* Very unpromising. *Rockingham:* Owing to the wet spring wheat seems inclined to rust—certain it is the crop is not near so promising as in March and April; some think the grain was injured by frosts. *Spottsylvania:* Has suffered some from frosts and changes during the spring. *Northumberland:* Wheat has not held its own since cold weather of March. *Nottoway:* A change for the worse since last report; fly and rust have done much damage. *Prince William:* Is still looking well. *Rappahannock:* Wheat has been going backward for the past two weeks and the extent of damage by unfavorable weather is hard to estimate. *Roanoke:* Wheat on low lands not well drained almost entirely killed; high land wheat good. *Warren:* Does not come up to the promise of late winter and early spring; is spotted in the fields, that is having here and there dark green spots from a foot square to a yard square, while other parts of the field are of a pale green; is now heading out; too wet at present for low land wheat. *Botetourt:* Since last report wheat has taken an unexpected turn, and has lost at least 15 per cent.; many fields are heading out feebly, with the straw weak and sickly in appearance. *Grayson:* But little if any improvement in wheat. *Halifax:* Some fields show decided improvement since last report, while the condition of others is worse; the damage by freezing and insects is irreparable, and more apparent as the crop nears maturity. *Henrico:* Leaf rust on leaf, but none on stalk; will be ready to cut in ten days. *Montgomery:* Very promising. *Surry:* While the condition of wheat is a little better than at this time last year, yet it has rust badly and will make but a sorry yield. *Wise:* About the same as last year both in acreage and condition. *Wythe:* Since wheat has headed it has turned yellow, the heads are small, and much fear is expressed as to the final result. *Amherst:* Some complaint of aphis. *Culpeper:* Winter wheat has changed very materially since May 1, owing principally to hard frosts during the latter part of April, which at first did not seem to affect it much, but soon the ends of the tender blades turned yellow and seemed to die, then the blades all became more or less affected by rust, and the crop failed to head out with that vigor promised early in the season. *Greene* Wheat from some cause looks at present as if it would not make more than half a crop. *King and Queen:* The

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condition has been greatly lowered by the prevalence of red rust, and the effect will be to lessen the yield and impair the quality. *Orange:* Depreciated rapidly during May; affected by rust. *Prince George:* Badly affected by fly and rust. *Tazewell:* Falls ten below last report; the favorable April failed to make up the damage done by the freeze in February; chess largely prevails. *Appomattox:* The condition of wheat is very precarious; the crop in one section of the county is almost a failure from fly and rust; in another section the blades are burned to the top by rust; still, on good land it is filling well; should rust attack stalks it is gone. *Charles City:* Injured somewhat by cold snap in March and recently by rust. *Charlotte:* Has deteriorated; shows rust on blades; is faded in color and badly filled, and will ripen prematurely; prospect worst for several years. *Dinwiddie:* Has been severely damaged by red rust; much of the grain will be small and shrivelled. *Fauquier:* The wheat crop is at present in a deplorable condition, with the poorest prospect for years; much damage has been done by a terrific wind and hail storm, occurring a few days since; in the early spring the outlook for a good crop was excellent, but the plant has been going down for nearly a month, and with the recent heavy rains and storms it is in a bad fix. *Franklin:* Is greatly damaged by rust; in many places is not worth the seed. *Greensville:* Affected by rust. *Highland:* The wet weather is damaging wheat, and should it continue the damage may be great. *Lunenburg:* Seriously injured by Hessian fly and rust. *Page:* Wheat continues to go back, from what cause can not be determined; on well fertilized lands does not look better than where no fertilizer was used. *Powhatan:* Will not make above three-fourths of a crop. *Smyth:* Thin on ground and shows badly in heading up. *Westmoreland:* Condition is not good; made too much growth during winter, and consequently injured by March freeze; later on it suffered from the attack of an insect or louse; when about to head, rust made its appearance and increased rapidly until at this stage the blades are completely dried up, checking the filling out of head and materially shortening the yield. *Campbell:* The crop is very poor, and 70 per cent. for condition is possibly too high. *Augusta:* In some sections will not pay to harvest, and a few farmers have turned on cattle; a brown bug is sapping the stalk, and sheep-sorrel and sour-grass have taken large fields of wheat on the best land in the county; in the southern part of the county the prospect for a good crop is encouraging. *Henry:* There is wide-spread complaint of rust on wheat; to what extent it will be injured remains to be seen, some farmers contending that less than one-fourth of a crop is promised, while others think the probable damage is overestimated. *Scott:* In some localities looks very well, in others not well; has now headed; stalk very short. *Brunswick:* Is ripening prematurely, consequently will be of inferior quality. *Washington:* If dry from now on, the crop will be good.

NORTH CAROLINA.—*Alamance:* Injured by frost about middle of April; on red lands is now in good condition; on sandy lands, where there is but little vegetable matter in the soil, is almost an entire failure. *Hertford:* Was badly damaged by late frosts and will be a poor crop. *Montgomery:* Injured by Hessian fly, and on low lands by late frosts to some extent. *Person:* Condition below average. *Union:* The weather has been too dry this spring for wheat. *Chatham:* Is unprecedentedly poor, and being very thin, all kinds of foul growth have had opportunity to thrive; the low condition is caused by the ravages of insects, and the variable weather of the latter part of winter. *Halifax:* In some sections is almost an entire failure; the weather has been first hot and then cold, consequently there is much rust, with a poor growth and stand. *Rutherford:* Much damaged by rust. *Wilson:* Damaged by fly and rust. *Yadkin:* Badly injured by rust. *Yancey:* Has come out better than was expected a few weeks since. *Burke:* More than a half crop not expected because of rust *Caldwell:* Is badly affected by rust, was green during winter and early spring but turned yellow and failed as harvest approached: heads light. *Gaston:* There can not be more than half a crop; has rust, and is not filling out well; is also thin on the ground; much has been plowed up and other crops planted. *Swain:* Greatly damaged by

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rust; many farmers say the crop will not be worth harvesting. *Transylvania:* Crop will be very short, at best not more than a good half crop; blades badly affected by rust. *Caswell:* Has improved wonderfully in the last thirty days. *Cleveland:* Is very irregular, due to green louse in winter and spring. *Davidson:* Damaged by the freeze in March; Hessian fly, and, at present, rust of blade. *Granville:* Very poor, but no bug or rust. *Guilford:* Heads are short, but are filling out well. *Orange:* Condition has improved somewhat, but the heads are short and light. *Vance:* The condition of wheat is poor, much of it having been killed during the winter by an insect resembling the cabbage worm. *Alleghany:* Is improving and may make three-fourths of a crop. *Greene:* The poorest crop ever known, a large area will not grow tall enough to harvest. *Haywood:* Winter wheat now shows the effects of the freeze in March, in small, weak growth and considerable signs of rust. *Macon:* The very serious decline in the condition of wheat during May was caused by the effects of the March freeze becoming more apparent, and by the appearance of rust early in May. *Nash:* But little more than half a crop expected; damaged by Hessian fly and wheat louse. *Pitt:* Is almost a failure; no improvement since last report. *Rowan:* Poor stand, badly injured by rust. *Surry:* Became affected by rust early in May and the yield is likely to be short. *Durham:* Is far from being uniform, some lots are pretty fair while others are very inferior, having been killed in winter by insects. *Jackson:* Since last report red rust has taken possession of winter wheat and (it is thought) will reduce the crop nearly one-half. *Warren:* Is very poor; in some sections it will not pay for seeding, harvesting, and threshing. *Pasquotank:* Injured badly by rust.

SOUTH CAROLINA.—*Laurens:* Has suffered from drought, fly, and rust. *Abbeville:* Rust, Hessian fly, and recent rains have reduced wheat to 60 per cent. of a full crop. *Newberry:* Has rusted badly; this, with ravages of insects, makes condition poor; many farmers sold their cotton seed to oil mills instead of applying them to grain as heretofore, another cause of the low condition of wheat. *Barnwell:* Injured by late frosts and drought. *Pickens:* Has been injured by fly and rust; recent rains have increased the injurious effects of rust. *Anderson:* Damaged by fly, bugs, late frosts, and rust; is nearly a total failure. *Spartanburg:* Fly and rust have treated the crop badly. *York:* Very poor. *Lexington:* Poor; injured by fly and rust.

GEORGIA.—*Marion:* A seasonable May has improved crop to some extent, and damage from rust seems not so great. Very little wheat sown. *Rabun:* A serious falling off since last report. Damaged by May frost and there is much cheat, while rust has been serious in many localities. About a half crop. *Walker:* Is already ruined with red rust. Can not make more than one-fourth a crop. *Jackson:* Poor; rusted. *Milton:* Nearly a failure, owing to rust and cold, and frost in March which killed the best half of it. A great portion has been plowed up and planted in corn. *Murray:* Failure; the freeze destroyed most of it. Much will be cut for forage. *Gilmer:* Will not be over half a crop on account of freeze and rust. *Gordon:* Poor; harvesting to-day, June 2. *Troup:* Nearly a failure; killed out by freeze. *Upson:* Almost a failure, owing to freezes in early spring and the rust and fly in summer. *Hall:* Prospect a little better since last report. With no mishap will probably make a half crop. *Banks:* Very little improvement in crop. *Campbell:* May was favorable until recent rains set in, which, if continued, will prove disastrous to wheat. *Haralson:* About ruined by rust. *Houston:* The fall-sown, which is all we have of wheat, is in some localities almost an entire failure, owing to warm winter, Hessian fly, etc. *Dooly:* Almost a failure. *Jones:* Almost a complete failure. *Catoosa:* The majority of wheat raisers would rather have their seed than the crop. *Cobb:* Farmers will not make the seed that was sown. *Forsyth:* Took rust early; later was cut down by freeze; 50 per cent. of that sown will not be harvested. *Gwinnett:* Well nigh ruined by rust. A half crop of poor wheat is all we expect. *Monroe:* A perfect failure. *Randolph:* Badly damaged by warm winter. *Walton:* Small area and badly damaged by rust, fly and freezing out. *Worth:* Poor. *Douglas:* Injured half or more by rust. *Hart:* Since last report wheat has made nearly an entire failure.

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Rust took the blades when it began to head. There will not be more than seed saved. Much will not be harvested. *Camden:* Much that was planted came to nothing, on account of dry weather.

ALABAMA.—*Cleburne:* Damaged by fly and rust. *Chambers:* Not so badly injured by rust as was thought. *Shelby:* A very limited acreage is devoted to wheat, owing to cheapness of flour and want of mills, but that grown is looking well. *Calhoun:* Very little sown, and 25 per cent. of that plowed up or pastured with hogs, cattle, etc. *Limestone:* Not as good as last year. *Randolph:* The little sown is quite poor.

MISSISSIPPI.—*Amite:* Plant is small both of winter and spring wheat; the rust is so destructive to this grain that it is discouraging to plant it. *Chickasaw:* In fair condition. *Choctaw:* Little wheat in county. That received from the Department was ruined by rust.

TEXAS.—*Kaufman:* Very little sown and that was badly damaged by late freeze in the spring. *Lampasas:* Near a complete failure, on account of the drought in the winter. *Jack:* Badly damaged from rust; will not make over half a crop. *Reeves:* A new county—only 400 acres sown to wheat, which was destroyed by hail. *Runnels:* Damaged, on account of rust. *Wise:* Failed to spread, probably from too much rain. Heads short; some rust; light straw, in fact is hardly worth harvesting. *Morris:* Too much rain and cool nights caused some rust. *Stephens:* A failure in some fields, and some are better than last year's crop of 20 bushels. *Fisher:* Shortage is caused by lack of rain which came too late for full crop. *Baylor:* Has come out wonderfully since the rains; yield will be short, but quality extra. Harvest will begin in a day or two. Some rust, but has done no perceptible damage to winter wheat. *Collin:* The remaining crop was greatly injured by heavy rains in April. *Haskell:* Acreage largely in excess of last year, due to increased population. Grain crops cut off by dry weather through winter. *Denton:* A failure. *Hill:* Has improved since dry weather set in. *Rockwall:* Nearly a failure. *Ellis:* Almost a failure. *Hunt:* Considerably damaged by excessive rain. *Bosque:* Rust, freeze, and bugs, together with copious rains, will make the crop very short. *Johnson:* Almost a failure. *Eastland:* Cut short by the freeze in March, and afterwards too much rain caused rust. *Grayson:* Probably 25 per cent. was plowed up; that which remains is at least 50 per cent. below last year in condition. Rust and insects were very bad. *Kerr:* Acreage sown as compared with last year was considerably larger than indicated by 70 per cent., but much was plowed up on account of being killed by frost, and the land planted to cotton and corn. The sowing of wheat has to some extent been decreased on account of a natural tendency in all wheat to run out, in, say, about twelve to fifteen years. Another kind will have to be substituted. *Mason:* Suffered much by late frosts; many fields plowed up and cotton planted instead. *Taylor:* Late and light, on account of early drought, though healthy at present. *Coleman:* Condition not so promising as last month, some farmers claiming that it is badly affected with rust, while others say that rust has only attacked the blades and the dry weather will prevent injury to the heads. *Erath:* Less planted in proportion than ever before, on account of dry fall and low price. *Hamilton:* Acreage much less, owing to low price and the want of first-class mills; then all that sown on cotton-stalk land was destroyed by insects. What we have has the rust badly. *Hood:* Ruined by rust and insects; not worth reaping in many fields. *Jones:* Large increase in area, due to increase in population. *McLennan:* Has not paid the expense of making and saving for past two years, therefore the reduction in acreage.

ARKANSAS.—*Marion:* Some complaint of chinch-bugs. Wheat ten days late; just heading; usual harvest time June 15 to 18. *Perry:* The little sown is heading and looks well. *Stone:* Appearance and condition of wheat has fallen off greatly through the past month. *Franklin:* Is not doing well. It is too thin on the ground. Heads very short and it is taking the rust badly. Too cool and rainy. *Conway:* Season has been favorable to wheat. *Miller:* The little sown nearly killed by severe freeze of March. *Carroll:* In bloom; none winter-killed. *Polk:* A poor crop at best here, but

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late rains have ruined what we did have. *Pope:* Injured by rust. *Fulton:* Very promising until freeze in February, which materially injured it. *Montgomery:* Was injured more than was supposed by blizzard of March. Many fields are one-third to one-half cheat. Now it has the rust, some fields being entirely ruined thereby. *Pike:* Too much rain; is suffering from rust. *Sevier:* The falling off is attributed to cold snap and Hessian fly. *Van Buren:* Most wheat looked well till 15th of March, then came a heavy freeze which lasted several days, killing it to the ground. It has never recovered.

TENNESSEE.—*Carroll:* Prospect was never more unfavorable. Too much rain. *Clay:* Is low, heads short, and did not branch as well as last year. The yield will therefore be small, but if half as large as last year, there will be as large a crop owing to a largely increased area. *Decatur:* Not an average amount sown; it has taken rust; outcome uncertain. *De Kalb:* Greatly damaged by severe cold late in spring. *Johnson:* Badly injured in March by freezing weather. The acreage of wheat sown is reported at 100, but not more than 50 per cent. is standing. *Monroe:* Badly damaged by an insect or bug that appeared to suck the life out of it. It was further injured by hard freezes in March. *Warren:* An unfavorable change in the prospect; crop will be very light this year. *Wayne:* Has the rust; present outlook indicates that it is damaged, but can not tell how much. *Wilson:* Seriously injured by March freeze. A dry June will add greatly to the prospects. *Dickson:* Badly damaged by rust and excessive rains. *Rhea:* Some red rust on wheat; with fair weather will not injure it to any extent. *Unicoi:* Condition has fallen off and the prospect for a good crop decreased since last report. The frost in April damaged it badly and the rust is making its appearance in some fields. Extent of damage not yet ascertained. *Bedford:* Extremely poor as a consequence of freeze in March. *Blount:* Prospect very poor. It began to rust after May report went in. Is very thin, short headed and blades all dead. Many say they would take the seed for their crop. *Carter:* Full acreage, but owing to fly and late freezes there will be a shortage of fully one-half, and rust has struck the remainder. *Cheatham:* Generally affected by rust. While some fields are only slightly damaged, others are seriously so. *Davidson:* Seriously damaged by freeze of March 1, is now attacked by rust. *Greene:* Badly damaged by March freeze; fly did injury in some localities also. *Hawkins:* It is difficult to give a satisfactory estimate. A week ago red rust gave an exceedingly unpromising look, but heavy rains in the last few days seem to have cleansed the blades. It now has a more healthy appearance. *Humphreys:* Not nearly an average crop; very poor and late. *Montgomery:* Acreage not so great, as some of that sown was plowed up in the spring. The estimate now is one-third of a crop. The very late sown promises pretty well. *Moore:* Probably not a half crop made. The hard freeze in March killed much of it, so that a great deal has been plowed up. That left is generally thin and has taken the rust. *Sevier:* Unless there be a change for the better, not half a crop will be made; it has red rust. *Trousdale:* Crop most inferior. *Williamson:* On the ground it looks pretty well, but having been killed out by frost, it will yield only about 40 per cent. of last year's crop. The grain bids fair to be very fine. Harvesting will begin by the middle of next week. *Campbell:* Badly damaged by frost on the 1st of March; much complaint of rust. *Gibson:* The late freezes and very wet spring have damaged wheat seriously; very few extra good crops. *Knox:* Is making a vigorous effort to recover from the freezes that occurred in March; an abundant supply of heads but not well developed; rust has been on the blades for fifteen or twenty days. *Lincoln:* Thin; some rust; heads short. *Washington:* Badly rusted; even with favorable season it can not make over two-thirds of a crop. *Chester:* Poor owing to too much rain. *Haywood:* Damaged by rust, while on low lands it has been drowned out; the ear is short and not well filled. Harvesting on early wheat will commence the 2d instant. *Lauderdale:* Early wheat, especially a variety known as "Red Chaff," was much killed by late frost, and cheat came up abundantly. There are some good crops of the bearded kind, known as Mediterranean or Swamp wheat. *White:* Not

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good; rust destroyed blade. If stalk escapes rust and grain is plump it will make 50 or 60 per cent. *Anderson:* Seriously damaged by late freezes in March and February. *Lawrence:* Injured by late season, but greatly improved by favorable weather in May. Prospect is that it will fall short of an average crop. *Dyer:* Prospect bad; rust uncommonly bad, and there are lice and bugs on most wheat. *McMinn:* On some farms it promises to be a full average, on others it will scarcely pay for harvesting; hence a wide variety of opinions. Yield will certainly be much below the average. *Stewart:* Injured greatly by cheat and rust. *Robertson:* Prospect now is that there will not be over a half crop, even if the bugs do not injure the heads. *Crockett:* Frost and freezes damaged stand, and constant wet weather produced rust; the result is a short crop. *Jefferson:* The average at 60 per cent. is a higher estimate than my advices would probably warrant, but I put it so, knowing our tendency to exaggerate unfavorable prospects. *Lewis:* Thin on ground; rust on blade. *Claiborne:* Damaged frosts and by freezes of February and March. Now rust has struck wheat and will destroy a great deal of what survived. *Sumner:* Harvest will begin about June 6th. It stands thin and low and will require nice work to save it.

WEST VIRGINIA.—*Berkeley:* In fine condition. *Brooke.* Looks well. *Grant:* Very fine; the green louse appeared at one time this season, causing the plant to turn yellow in spots, but the insect having disappeared, it looks vigorous again. *Marion:* Prospect very flattering. *Jefferson:* The wet weather has caused a decided decline in condition, the heavy rains breaking off the bloom and causing it to fall; now is the critical time, and the weather is very unfavorable. *Hampshire:* Now coming into head, with prospect of a fine average yield. *Hardy:* A fine crop will be harvested, unless it is injured by rust. *Kanawha:* Above the average at this date. *Monroe:* Greater damage from the March freeze is now apparent than was indicated in the previous reports. *Morgan:* Looks fine; an early harvest promised. *Pendleton:* In good condition generally; a few pieces of early sown damaged by March freeze, and some on low-lands injured by rust. *Tyler:* Should no rust occur, the promise is good for a fine crop; the straw is tall and the heads large. *Monongalia:* None so badly winter-killed as to warrant plowing up; on the contrary, it grew all winter, and now is in the most promising condition. *Ohio:* Maintains its high condition as reported last month. *Preston:* Good. *Putnam:* Lost 5 points in May by excessive rains. *Wayne:* Condition lower than on May 1, owing to the continued heavy rains, which have scalded the plant and caused rust in some places; heads are short, only about two-thirds the usual length. *Wood:* Has not improved since last report; some fields are showing rust; on the whole the prospect is not favorable. *Cabell:* Injured by recent rains. *Fayette:* Condition 10 per cent. above the average at this date, with the promise of a splendid crop. *Mercer:* Was in extra fine condition when the March freeze came, destroying a large percentage on old fields, which had been sown broadcast without fertilizers; that put in with drill and fertilizer looks well. *Wetzel:* Injured by wet weather, heavy rains packing the ground as hard as though it had never been plowed; the aphis has deserted the wheat since last report and begun on oats. *Gilmer:* An abundant yield promised. *Harrison:* Season favorable; prospect fine. *Summers:* Will hardly make a half crop, being seriously injured by the March freeze; it will make but little difference, however, as farmers can not afford to sell at present prices. All farm products in this section are selling at prices below the cost of production, consequently our farmers are getting in debt and mortgaging their lands.

KENTUCKY.—*Carey:* Short growth, but the prospect is good. *Edmonson:* Much is thin on the ground, but the heads are fine and the plant in good condition. *Hickman:* Promises only 50 per cent. of a full crop at this date; all is more or less injured by rust; should the berry prove to be damaged the average will be still lower. *Union:* Prospect poor; too much rain; the stalk is sappy, with indications of rust; grave fears are felt for the crop. *Breckinridge:* In good condition. *Christian:* The excessive rains continue and the crop has gone back instead of keeping the promise of im-

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provement it gave some time after the freeze; many fields are worthless and will not pay for harvesting; the grain is suffering also from the depredations of the aphis or wheat louse, and the outlook altogether is the poorest in many years. *La Rue:* Some improvement may be noted within the past ten days, but the injury from the March freezing is irreparable in many places; 80 per cent., the estimate given, is probably too high for the entire crop; it is generally uneven and the heads short. *Laurel:* Looks remarkably well; the frequent rains have brought it out and it may make an average crop in spite of the freezing weather of March. *Shelby:* The freezing spell of March turned many of the fields brown, but they have recovered in a great measure and now bid fair to make almost a full average. *Wolfe:* Slight indications of rust, but not sufficient to enable us to foretell the result. *Allen:* Thin on the ground and many fields are filled with cheat. *Ballard:* Has gone back since last report; will not make more than half a crop. *Calloway:* Injured late in the season, but is heading out better than was expected last month; is showing a large quantity of cheat and some rust. *Fayette:* So variable in appearance that it is difficult to make a proper estimate; that on the best lands was so much injured by the March frosts that the yield will be very light; it is now foul with weeds, cheat, and cockle; that on thin lands will make the ordinary crop of about 12 bushels per acre. *Grant:* Prospect fair. *Hardin:* Shows a falling off of 10 per cent. since last report, the effects of the March freeze becoming more apparent and excessive rains doing further injury. *Graves:* Suffering from excessive rains. *Henry:* A great deal of the wheat is full of cheat, so that the crop is not even so good as it was supposed to be at previous report. *Jessamine:* About 10 per cent. of the crop was plowed up after the March freeze and a considerable amount damaged by grazing, reducing it altogether 10 or 15 below the average. *Kenton:* A very fine prospect. *Logan:* Has held its scale of condition during the month except that it has recently taken the rust; the full heading of the crop only shows more plainly the deficiency of stand, which is the chief cause of low condition; any cause which may operate to prevent proper filling will cause further reduction. *Nicholas:* Condition good; the heads are coming out short, but the plant is vigorous; with no further mishap the crop will be a good one. *Ohio:* Was badly frozen out in March; what was left is mixed with cheat and cockle to such an extent that many are pasturing it; in some instances it has been plowed up. *Oldham:* The acreage in our diversified system of farming varies but little from year to year. Very little, if any, has been plowed up. Condition low; was injured by March freeze on uplands and by standing water on low-lands subject to overflow. The plant has tillered very little. The heads are short and, as a rule, very sharp pointed, indicating that the upper breasts will not fill. It is just now in full bloom, and harvest will begin about June 20. *Simpson:* Prospect very gloomy. The heads, now in bloom, are thickly covered by a small green louse. *Daviess:* Will not exceed 75 per cent. of an average crop. Cheat has appeared in abundance and fears are felt that large quantities will be damaged by smut. Some farmers are plowing up their entire crop on account of cheat. This state of things has been caused by the freeze of March after the plant began to joint. There will be no good wheat except the very latest sown. *Henderson:* Crop destroyed on all low clammy lands, while on hill and tile-drained lands it is good. The grain louse has again made its appearance. *Lyon:* Has not wholly recovered from the effects of late frost. *Metcalfe:* Greatly damaged by the March freeze. Some complaint of rust. *Muhlenberg:* Prospect very poor. Too thin on the ground and the plant has a sickly appearance. *Lewis:* Injured to a small extent by the freezing weather of March, possibly 10 per cent. or less. Shows no disease whatever and the yield will be fully up to average. *Anderson:* In full average condition. *Boone:* Backward in consequence of the late spring, but promises an average crop. *Green:* Growth very uneven. *Hancock:* Declined since last report by reason of the great quantity of cheat developed in many fields. Some show nothing else but cheat and are being plowed under. Some pieces are very fine, especially on southern slopes which were protected from the March freeze. *Jefferson:*

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A slight advance in acreage. Condition not much improved since May. *Mason:* In danger of falling owing to excessive rains. *Owen:* Injured by late frosts. Some fields plowed under. *Washington:* Has improved, but there is much complaint of cheat; some fields greatly damaged. *Wayne:* Has not recovered from the effects of the March freeze. *McLean:* A very short crop. Many fields promised well until heading out, when they were found to be all cheat. The very best pieces contain at least 20 per cent. of cheat. *Trigg:* Great decline in condition, due to the March freeze, a portion being killed and the rest so badly damaged that it lost its vitality at the root and has not branched or stooled any; it has been infested by insects and now is suffering from rust. *Webster:* In a very critical condition; damaged by excessive rains, rust, and insects working at the root. *Lincoln:* Very uneven, some fields good, others one-third or one-half cheat. It is generally thin on the ground, not having branched sufficiently in the spring. *Meade:* Will not be more than half a crop. What there is looks well. *Carlisle:* Now passing out of the milk state. The blades are red with rust and there is some complaint of fly and grain louse. The average given, 70 per cent., is perhaps too high, as rust may do further damage. The earliest part of the crop will be ready for harvest in eight or ten days. *Garrard:* Very promising; heading out well. More or less cheat is to be seen in the majority of fields. *Clinton:* Thin on the ground and very uneven in height. With a very favorable season for harvesting may make half a crop; otherwise will fall to one-fourth. The March freeze reduced its vitality to such a degree that the plant never recovered from its effects. *Owsley:* Appears to be rusting considerably.

OHIO.—*Miami:* The past month has been favorable to growth of wheat which escaped being killed by the March frosts, and it has gained a few points. *Perry:* Spring very favorable to growth. *Paulding:* Less than the usual average sown, owing to drought, and 25 per cent. being plowed up, the average can not be above 70 per cent. of last year's crop. The plant is of rank growth, but thin on the ground. *Adams:* In as fine condition as ever known at this season; all headed out and some in bloom. *Ashtabula:* Late sown greatly improved by the wet weather of the past month. *Belmont:* Improved; the season has been very favorable to growth. *Clarke:* Of very uneven growth; injured on low-lands where not well drained. *Clinton:* Too much rain. *Darke:* A full average was sown, but a considerable amount was plowed up after the March freeze and planted in other crops. *Gallia:* Has been badly damaged since the first of May by the plant louse, which seems to have destroyed all its vitality; fields are turning brown and many will not be cut. *Geauga:* Doing remarkably well. *Hancock:* Seventy per cent. of the crop destroyed by excessive rains during the winter and spring, together with the freezing and thawing weather of March. *Hocking:* Looks splendid; the best prospect in many years. *Holmes:* Improved on hill-sides, where water could run off easily; on low, flat lands it is yellow. *Huron:* Improving; may reach a still higher average than the one given, 80 per cent. *Jefferson:* Has made an extraordinary growth, owing to the wet spring, some being 6 feet high and heading finely. *Mahoning:* A disastrous month for wheat; cold rains prevailed for nineteen days, causing the plant to turn yellow in many places. There was also some injury done by hail. *Ross:* Some complaint of the grain louse. *Montgomery:* Per cent. of condition lowered during the month by excessive rains, which packed the soil on heavy clay lands and drowned out the plant on bottom-lands which are not tilled. *Pickaway:* Present outlook remarkably good. *Sandusky:* Has been brought forward in the last month and has made a good growth in consequence of almost continuous rains. *Union:* Has improved since last report, circumstances being very favorable. *Hamilton:* Damaged on flat lands by excessive rains. It is now nearly all headed out, and shows a good deal of cheat where farmers were careless in sowing grain not thoroughly cleaned. None plowed up. Harvest will be from June 25 to July 4. *Champaign:* Acreage given (95) may appear low, but a considerable amount was so badly hurt by the March freeze that it was plowed up and sown to oats. *Coshocton:* Shows great improvement during the past month. *Greene:*

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A few fields were frozen out, but the very favorable weather has brought the crop up to a full average for the season. *Harrison:* Acreage a little short of last year's. Prospect of a full average crop. *Richland:* Improved since last report. *Fairfield:* Heading out in fine condition. *Highland:* Good. *Jackson:* In extra fine condition. *Lorain:* Very good, except on low-lands, where water stood during the winter and early spring. *Madison:* Has stooled out and is looking fine. Has advanced fully 20 per cent. *Medina:* None plowed up. *Scioto:* The plant louse has appeared, but has done no damage so far as can be learned. *Van Wert:* Very spotted and full of weeds; also injured by excessive rains. There is a probability that much will lodge. *Allen:* Has done well throughout the past month, and should June prove favorable for maturing the crop, it will fully equal that of last year. *Logan:* Improved since last report and is beginning to head out; heads extra good, with plenty of straw. *Erie:* Very uneven; on high-lands good, on low-lands very poor. *Knox:* Heading out in fine condition. *Preble:* Very uneven. The Hickman variety shows many black heads. In some fields one-sixth of the heads are blasted, the smooth varieties being worse than others. This, with the uneven stand, will cut the crop short one-third or more. *Seneca:* Twenty-five per cent. plowed up in some localities and sown to oats. On what remains an improvement of 5 per cent. may be noted. *Williams:* Small acreage, due to drought at seeding time. *Monroe:* Looks splendid. Is in bloom and will nearly all be harvested in June.

MICHIGAN.—*Ogemaw:* The outlook is favorable for a full crop. *Ottawa:* Looks well except on clay soil, which will not yield over one-third of an average crop. *Arenac:* Has started remarkably well, abundant rains helping it materially. *Roscommon:* Looks well, with indications of a good crop. *Allegan:* Excellent on high dry lands: poor on flat, clay lands. *Ionia:* Condition very little changed since last report. *St. Clair:* The crops will be short and very unevenly distributed; very good in some localities and on some varieties of soil; very poor on clay uplands. Many fields were plowed up. In most cases it is thin on the ground. *Saganaw:* On sandy ground it has improved greatly since last report. Heavy clay lands afford a poor prospect. A considerable area has been plowed up and sown to oats, and more would have been but for the wet weather, which prevented plowing. *Newaygo:* Area to be harvested will differ but little from that of last year, with a slight increase from new farms. The stand is very thin, owing to unfavorable weather; but few good fields seen. None will be plowed up, however, as it is always seeded in grass. *Calhoun:* Germinated well and quickly on well-tilled summer fallows, made a fair growth in the fall, and now looks promising. Much that was sown on stubble or after spring crops came up late in a weakly and spindling condition and has never attained a vigorous growth. Reduction in acreage due to the fall drought, which prevented seeding. *Bay:* Very poor. *Alcona:* Greatly improved within the past two weeks owing to an abundance of warm rain. *Clinton:* Condition very poor; 25 per cent. plowed up for other crops. Soil in the county is mostly clay. *Genesee:* Improving. Stand and condition poor still. In some localities one-tenth has been plowed up. *Jackson:* A marked improvement in many fields during the past twenty days. *Lenawee:* Very thin, especially on clay lands. Will hardly make a half crop. *Mason:* Looks well. *Mecosta:* Improved somewhat in May. *Monroe:* A poor crop. Much plowed up and put in other crops. *Montcalm:* Greatly improved during the past month. Still spotted, however. *Oakland:* Condition so variable in different localities that it is extremely difficult to make an average. Some is good, some exceedingly poor, and some has been plowed up. *Otsego:* Never looked better at this date. *Kent:* Very spotted on heavy soil. *Tuscola:* Improved by recent rains. *Branch:* Bids fair to make 80 per cent. of a full average crop. *Shiawassee:* Prospect very poor. At least 1,000 acres to each township of the county has been plowed up. *Cass:* Now heading out; stands even and healthy, promising a grand crop. *Antrim:* Looks fine on level lands; on rolling lands is killed in spots.

INDIANA.—*La Porte:* Fully eight days in advance of last year at same date. *Spencer:* Badly damaged by excessive rains; will not make over 65 per cent. of a full crop.

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Gibson: Thin on the ground, and one-half the average crop is all that can be expected. The grain louse has made its appearance one month earlier than last year, and in vast numbers; what damage will result can not now be foretold. *Wabash:* Condition but little changed since last report; has made a good growth and is heading out finely. *Columbiana:* Forcing ahead rapidly, except in a few low, spouty fields, where it is drowned out for lack of underdraining. *Decatur:* Up to March 1 gave promise of the best crop ever known; was then so badly injured that it is now the worst. The roots prove to have been killed more completely than was then indicated. Large fields have been plowed up and planted in oats and corn. Half of the amount left will not make much more than the seed. The only good wheat left is where bone meal was liberally used, and on lands skirted by green woods. That on the best soil was injured worst, being more advanced when the freezing weather came. *DeKalb:* Improved by favorable weather of May. *Fayette:* No improvement perceptible since last report. A great deal was plowed up and put in corn, and many acres will not pay for running the reaper over them. *Franklin:* More than the usual area plowed up. Injured by excessive rains in addition to being winter-killed, yet there are some fine fields on bottoms and in sheltered positions on uplands. *Jasper:* Improving; may reach 75. *Jay:* Almost a total failure; nearly three-fourths of it frozen out. *Kosciusko:* Has come out wonderfully; still very spotted on clay soil. *Lawrence:* Will not make over two-thirds of a crop. Some fly reported. *Bartholomew:* No improvement since last report. An increased per cent. is showing cheat or chess. *Crawford:* Has improved considerably. Though it was materially thinned by freezing, it is heading out at good height; the heads of extra length with the prospect of a much better yield than was anticipated. *Wayne:* Improved since last report, especially where well fertilized. The effect of timber protection is observable everywhere. *Warwick:* A reduction of 10 per cent. in condition since last month due to excessive rains, which have injured the crop on low-lands. *Wells:* Improved somewhat. *Dubois:* Greatly improved during the past month. Heading out finely and with clean straw. *Hancock:* Will not make over a half crop under the most favorable conditions. *Harrison:* Is not turning out so well as it promised after the freezing spell. *Jefferson:* Thin on the ground. Many fields full of cheat and cockle. *Montgomery:* One-half of the acreage seeded will not be harvested; the remainder is thin and foul with cheat and weeds. *Orange:* None plowed up. The fly made its first appearance on the 5th of May, and since that time the condition of the crop has been cut down 35 or 40 per cent. The midge has also appeared and is doing some damage. *Ohio:* In good condition. *Pike:* Not so promising as at last report. Will be a total failure wherever it suffered from the March freeze. *Shelby:* Many fields that gave promise of a good yield at last report, are full of cheat. *Putnam:* About 25 per cent. of the area sown was plowed up. It is thought that many fields will show a great deal of cheat; where this is the case the crop will be very poor. *St. Joseph:* Prospect of a large yield. *Scott:* Contains a great deal of cheat, especially on wet lands. *Sullivan:* Greatly damaged by the freezing weather of March, and subsequent heavy rains. *Whitley:* Has improved during the past month; is uneven, some being excellent and some very poor; is just coming into head; none of any consequence has been plowed up. The effect of underdraining makes itself plainly seen this season. *Hamilton:* About 40 per cent. has been plowed up or will be, and probably the remainder will not make over a half crop. The fly abounds in many fields, which will further reduce the yield. Some will not be cut. Harvest will be late. *Vigo:* Improved 10 per cent. since May report, and doing much better than was anticipated. *Grant:* Failed to make any improvement during the past month. On all low-lands has been damaged by being overflowed. *Huntington:* Improved steadily through May, though many fields are still thin. *Morgan:* The poorest prospect ever known. *Steuben:* May has been a favorable month for the plant, the cool, wet weather giving it a boom on sandy or gravel lands. It has improved also on clay soil. None has been plowed up. *Switzerland:* In good condition; if it fills out well, will make an aver-

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age yield. *Tipton:* Stooling out remarkably well where the root's were not too much injured to enable them to start afresh. *Vanderburgh:* Has gone back since last report. Heading out short, and badly damaged on low lands by excessive moisture. Sixty per cent. of last year's crop is the utmost we can expect. *Marion:* Has not improved as was hoped for at last report. The advancing season develops a much greater amount of damage than then seemed possible, 25 or 30 per cent. has been plowed up and as much more would have been but that the ground was seeded to grasses. A great deal of chess is showing, and some of the best fields are injured by smut. Altogether the outlook is the very worst ever known here at this date. *Posey:* Extremely variable, the condition ranging from maximum to nothing. One township only places it at 75 per cent., while four report it at 50. *Tippecanoe:* Decrease in acreage due to the fact that a large percentage of the crop was plowed up and put in other crops. *Blackford:* Improved since last report; if it fills well may make one-third of an average crop. *Lagrange:* In excellent condition. *Randolph:* All that was left by the March freeze has been brought rapidly forward by the cool, rainy weather of May, but the product of the county will hardly supply home demand. *Perry:* Shows a large quantity of cheat, especially on river bottoms.

ILLINOIS.—*Schuyler:* The acreage seeded was 10 per cent. greater than that of last year's crop, but fully 18 per cent. of it has been plowed up. The condition as compared with that of last year at this date is not above 60; the average condition is probably about 70; the general outlook is far from flattering. *Union:* A total failure may be noted in many fields or portions of fields, while some others are extra good; we can not possibly make more than 60 per cent. of a full crop. *Jackson:* A considerable amount of cheat in many fields, especially where the plant was winter killed. *St. Clair:* Badly damaged by the cold weather of March, the growth being exceptionally forward at that time; a large quantity of cheat is appearing in the growing wheat. *Hardin:* Prospect fine in some localities, very poor in others; some fields have been plowed up and planted in oats or corn. *Lawrence:* Badly winter killed; some entire fields have been plowed up and planted in spring crops; what remains is full of cheat; 60 per cent. represents the acreage left. *McHenry:* Great improvement during the past month, the weather being very favorable; no fields plowed up in the county. *Alexander:* Very thin and full of cheat and cockle; will not average more than a half crop. *Boone:* Very little sown. *Clinton:* No improvement; many fields will not pay for harvesting; others will yield a full crop. *Fulton:* Improved at least 5 per cent. during the month of May. *Greene:* Fields thought to be fair turned out to be half cheat; not over 50 per cent. of a full crop can be harvested; in some portions of the county it is a complete failure; the estimate is made on the wheat now left and not on that plowed up. *McLean:* Has improved during the past month owing to abundance of rain, but the average will probably be lower than the figures given, 80 per cent., on account of the prevalence of cheat in it; but little has been plowed up, most farmers having sown grass with it. *Macon:* That which remains is making a thrifty, rapid growth, but about one-half of what seemed to be wheat turns out to be cheat, and many fields are being plowed up and put in corn; the indications are that a half crop only will be made. *Marshall:* Thin, but looking well. *Mason:* Some apprehension as to the fly and some complaint of cheat; no serious damage as yet; harvest will be late. *Monroe:* Where thin, much is appearing cheat. *Peoria:* Condition improved; acreage short, a considerable amount being plowed up. *Perry:* Condition growing worse all the while; shows an abundance of cheat. *Randolph:* Acreage short, owing to the fact that some was winter killed and plowed up; is now suffering from drought; if rain does not come very soon the harvest will be a poor one; there is much complaint of cheat. *Sangamon:* Many farmers claim that the crop is being badly injured by the fly; red chaff wheat has stood the winter better than Fultz. *Tazewell:* Very uneven; where it does not grow rank cheat is showing considerably; can learn of none being plowed up and sown to other crops. *Wabash:* Improving on uplands, while on lowlands it is being

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smothered by weeds, owing to the wet weather of the past month. *Will:* About 40 per cent. plowed up and put in corn. *Carroll:* Some complaint of the stand being uneven, but very little of winter killing. *Fayette:* Badly infested with chess; the prospect is for only 40 per cent. of an average crop. *Menard:* A decided change in the prospect since last report; when headed out was found to be full of cheat in many fields; these were plowed up and planted to corn and other crops; some farmers are still plowing it up; we can not have over half a crop, perhaps not so much as that; it is so thin that it is hard to give any correct estimate. *Warren:* Very few fields in first-class condition. *Coles:* Will not make over a half crop; many fields have headed out and prove to be half cheat. *Cumberland:* Has recovered in some degree from the March freeze, but will be a short crop. *Edwards:* But little improvement since last report. *Madison:* What is left of the crop is in fair condition; some has been plowed up. *Vermillion:* Nearly all winter killed in March; nine-tenths of the acreage was plowed up and put in oats and corn; that left standing will not make more than half a crop; not more than our seed will be harvested. *White:* Is in fairly good condition on well-drained bottom lands; badly frozen out on clay lands in March, and has made but little improvement; the green aphis has appeared, but has done no damage as yet. *Winnebago:* Heading out; some fields are good, others will not make a half crop. *Adams:* Declined in condition owing to the ravages of the fly, which has never been so bad; about 10 per cent. of the acreage sown has been plowed up and put in other crops. *Clark:* Much improved since May 1; heading out well; 25 per cent. was plowed up. *Douglas:* Almost a failure; one-half plowed under and most of the remainder proves to be cheat. *Edgar:* A little more than the average area sown last fall; 45 per cent. was plowed up for other crops and more would have been but for the fact that it was seeded to grass; should it fill out well, perhaps one acre in ten will be cut; much is heading out cheat and we shall not have more than 5 bushels this year where we had 100 last year, making 5 per cent. of a good average crop on the area sown; so complete a failure has never been known in the county. *Montgomery:* An average area was sown, but not over 10 per cent. of it will be harvested, and that is very poor. *Morgan:* Thin and full of cheat, especially on land where wheat was grown last year; the season to May 20 was cold and wet, causing the plant to stool out; hot, dry weather following a great many shoots will fail to head or fill. *Shelby:* Almost an entire failure, having been either killed or its germ partially destroyed, so that many fields supposed to be good for 25 bushels per acre prove to be cheat or chess; over one-half of what was left standing is found to be worthless and will be pastured or turned under as time and circumstances demand. *Williamson:* A large proportion of the crop is in very poor condition; some was frozen out; some early sown killed in March; many fields are proving to be all cheat. *Bond:* Has made a good growth during the past month, and now indicates a better outcome than was thought possible six weeks since. *De Witt:* In giving acreage and condition, that which was plowed up or wholly destroyed has not been taken into account. *Effingham:* Very uneven; some fields small and thin in places, while others are tall, rank, and in full head; the outlook has never been so difficult to estimate; it is a noticeable feature that wheat on well-drained land or where plowed with a middle furrow every 20 feet, is now tall and rank, with heavy heads, and is thick on the ground, bidding fair to yield an abundant crop; that plowed in "lands" 50 feet wide will not pay for cutting; in some flat fields where wide and narrow "lands" alternate the narrow ones will yield 50 per cent. more than the others. *Hamilton:* In fine condition; greatly improved since May 1. *Lake:* Badly killed in spring; where not plowed up it is very thin. *Lee:* Looks fair. *Pike:* Fifteen per cent. plowed up, the remainder will make a half crop from present indications. *McDonough:* Good in some localities, short in others; not so good on timber and clay lands as on prairies; some damage from the fly. *Pope:* What was not killed in March looks well, but contains some cheat; now headed out. *Saline:* A considerable area plowed up and planted in corn. *Johnson:* Since heading a great

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many fields show an unusual amount of cheat, in some places more than half. *Moultrie:* Very thin and of short growth; will not be over 75 per cent. of an average crop; acreage very short in comparison with former years.

WISCONSIN.—*Green:* Very little grown; it has wintered well. *Fond du Lac:* In fair average condition. *Outagamie:* Not so promising as at last report; late sown, and that on low, badly drained grounds suffered most. Another cause of partial failure was poorly prepared soil. Some farmers presuming upon the wonderful yield of last year did not give the necessary care to preparation and culture. Where well drained and planted in proper season the plant is splendid. *Pepin:* A considerable portion has been plowed up and seeded to oats; the remainder is in poor condition, and the outlook very discouraging. *Pierce:* Much has been winter killed; no chinch bugs have made their appearance for twelve months, and our farmers have gone back to wheat culture, hence the reduction in acreage of barley and oats. *Portage:* Badly winter killed; in some cases 70 per cent. destroyed. *Wood:* Killed to some extent on old lands; very fine on new soil. *Brown:* Improving rapidly. *Sauk:* Never more promising. *Walworth:* Reduction in acreage was caused by the low prices of 1889. There is little in the price or condition of the crop to encourage an increase in the future. Minnesota and Dakota wheat growers have driven our farmers out of the market to a great extent. *Marathon:* Very backward; has not started out much as yet. *Winnebago:* Has improved 10 points since last report, and now promises to make an average of 80 per cent. *Dane:* Improved by the warm rains of May. *Iowa:* Has not recovered from the effects of the fall drought and trying winter. *Dunn:* Has not improved more than one point; acreage reduced on level lands. *Oconto:* Fair on high lands; winter killed to some extent on low-lands. *Polk:* Looks well on sandy soil; on clay land is in poor condition, and some farmers are plowing it up. *Monroe:* A little above the average area sown, but it stands thin on the ground by reason of late seeding and small growth at the time of going into winter quarters.

MINNESOTA.—*Wabasha:* Damaged 50 per cent. by freezing and thawing last winter *Fillmore:* Improved 10 per cent. by recent rains. *Scott:* Forty per cent. plowed and reseeded, mostly to corn, but some to spring wheat. Remainder suffered from drought, and much that would have grown with rain has died. *Dakota:* Growth retarded by drought and cold; stand is very uneven, but it is generally conceded that the abundant recent rains will bring it to normal condition. *Rice:* Killed by open winter, and a large portion plowed up. *Le Sueur:* Nearly all plowed up. *Wright:* Took a sudden start and looks well; recent weather was wet and warm. *Steele:* Nearly ruined by drought and lack of snow last winter; just rain enough since May 10. *Meeker:* Promises to be better than average. *Scott:* Retarded in growth by drought which ended May 19, and rain continues until now, causing a wonderful improvement. *Todd:* Cold and dry until quite recently, and but half of the wheat came up; frost also did much damage; recent rain brought it up, and it is now growing fast, but is much later than usual on June 1. *Watonwan:* Looks particularly fine; heat and moisture are just right. *Blue Earth:* Never looked better. *Crow Wing:* Looks well and growing finely. *Dakota:* Finely condition. *Goodhue:* Area increased because of disappearance of chinch bugs and success last year; prospect excellent on fall plowed and early sowed fields. *Lac-qui-Parle:* Now doing well, but about twenty days behind usual growth because of drought and hard winds. *Le Sueur:* Looks very good; improved by abundant rain. *Traverse:* A little more than half, owing to dry, cold spring; no rain to sprout it in April. *Wright:* Took a sudden start and looks well. *Anoka:* But little sown last year because of fears of chinch bugs; this year farmers sowed a small quantity.

IOWA.—*Fremont:* None sown, owing to fall drought. *Des Moines:* Looks remarkably well. *Greene:* Normal condition. *Page:* Condition low because of drought and cold. *Lucas:* Doing fairly well. *Jefferson:* Injured by drought seriously. *Fremont:* Many fields were injured by drought but are being improved by recent rains, and it now looks as though we should get more than three-fourths of a crop.

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Page: Low condition, owing to drought and cold. *Lucas:* Doing fairly well. *Marshall:* Much larger area than usual. *Calhoun:* In a fair way for a very heavy crop; a great deal sown with oats; one-third oats to two-thirds wheat, which makes a very good quality of wheat, and most of our mills can separate them. *Guthrie:* More promising than ten days ago. *Ida:* Promises a fair crop. *Scott:* Will be above average, and the only danger is from overgrowth.

MISSOURI.—*Dent:* Frozen out somewhat. *Washington:* Most fields contain on an average one-sixth cheat. *Knox:* In many places a failure. It looked on May 1 as if it would be a half crop, but dry, cold, windy weather caused a great portion of it to perish. I am fearful that the weeds will take a good deal of it, because it is so thin on the ground. *Stoddard:* Looks fairly well at present, but outlook is uncertain. *Dallas:* Much cheat in it; some plowed up and some fields are very spotted. *Hickory:* Did not improve on prairie land; on bottom and timbered land wheat is promising. About two-thirds of the crop is on the latter kind of land. *Johnson:* Cheat developed in some sections; wheat heading out low on thin land. *Lincoln:* In very bad condition. A part of that standing is showing cheat. At least 25 per cent. was plowed up and land put to corn and oats. *McDonald:* Poorest prospect ever known. *Mississippi:* Continued rain from January to May drowned out some wheat, and the decrease left the area about 100. *St. Charles:* Slightly improved on sandy loam, but receded on all black land and the greater part is developing cheat; heading out very irregularly, very short and small; short heads. *Scott:* The last fifteen days were very favorable to wheat and it improved very much. *Sullivan:* More than usual acreage, and condition fine. Statement of condition is probably too low. *Texas:* Fifty per cent. more acreage than in 1889, but damaged 15 per cent. by March freezes. *Stone:* The very wet spring caused it to grow past the time for maturing until it is feared that it will be so late that rust will materially injure the crop, it being at least fifteen days late. *Barry:* Damaged 20 per cent. by late frost. Ten days earlier than last year's. *Jasper:* Improved greatly and nearly a full crop is expected. *La Fayette:* An unusual amount of chess. *Livingston:* Can not possibly be as good as last year's. Flies worked in it to some extent and there seems to be more cheat than usual. *Maries:* Never recovered from the January freeze when it looked so green and tender; began heading about May 15 and the heads are long and promise to fill well, which is the only hope of at least half the acreage paying its way in harvest. *Marion:* Thickening somewhat, but many fields are almost worthless because of flies. *Miller:* Frozen out in some places; in many cases turned out cheat where wheat was supposed to be. *Phelps:* Very thin but grain will be good; heads are well filled. *Christian:* Developing a vast amount of chess. We shall have the poorest average crop in years. *Lewis:* Injured by lack of snow and rain and the March frosts. *Audrain:* Badly mixed with cheat, some fields more than half. *Bollinger:* Area the same as last year's and condition improved very much within the last four weeks. *Caldwell:* Too dry for it. *Clark:* Came out very much in May, but there is so much cheat in it that it is difficult to tell much about the prospective yield. *Douglas:* More hurt by freezing than at first supposed. It does not seem to grow well although it had abundant rain. *Iron:* Heading out, but heads are short and straw thin on the ground. *Jefferson:* Badly cut up by cheat and fully 27 per cent. is worthless; many acres that promised fair crops are plowed for corn. *Macon:* Improved very much in last ten days by rains; heading out and has a great deal of cheat in it. *Morgan:* Bad condition for profit. Damaged by fly and winter and now turning to chess. Fields that from appearances would make from 15 to 20 bushels per acre are filled with chess. A large per cent was plowed up. *Perry:* A failure, many fields being badly killed by late freezes. *Andrew:* Many think it injured by late frost, but thorough investigation of many fields shows the plant to be in fair condition, *i. e.*, not injured; yet it may fill poorly because of frost. *Carroll:* Short; broadcast sown is thin on the ground and a few fields will be plowed up. *Charlton:* Nearly ruined by the March freezes; impossible to say how much was

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plowed up, though much of it was, and as much more was saved for pasture. On high prairies it is almost a failure and on flat land is much damaged, and from 50 to 60 per cent. is all that is hoped for. Many farmers confirm this opinion. *Crawford:* Fifty per cent. short, caused by excessive cold and rain in March; a failure, especially on all low, wet lands, and badly hurt on all clay land; a vast amount of cheat where wheat is most killed. *Wright:* Many crops have considerable cheat. Flies are also reported in some sections. From present indications the crop is not promising; condition has lowered rather than improved. *Boone:* Slightly improved, but owing to quantity of cheat in it condition can not be put over 45 per cent. *Butler:* Being damaged by rain. *Cedar:* Some good pieces; will be one-half crop compared to last year's. A great amount of cheat and cockle in it. *Cole:* Damaged by March freezes; some complaint of injury by Hessian flies. *Howell:* Considerably damaged by excess of rain. *Lawrence:* Doing well, season favorable; froze out in some places on dry land and on some small patches it died in April; a larger amount of cheat than usual; none plowed up. *Moniteau:* More than the usual amount of cheat; not more than one-half crop is possible. *Montgomery:* Spotted and a good deal of cheat; wheat drilled with bone meal is tolerably good. *Platte:* Lost twenty points in May owing to frosts. *St. Louis:* Some fields are 100 while others were plowed up early in May. *Saline:* Fell very materially in May. Much supposed to be a half stand was cheat and was plowed up; remainder is thin and full of weeds. Fully 16 per cent. of the entire crop was plowed up and the amount standing will be a very light yield. Some correspondents place condition below 50 per cent. *Callaway:* Low condition; many fields full of cheat and are being plowed up or cut for hay. *Madison:* Made good growth in May; has good color, good height, and large heads; only drawback is a bad stand, but that is confined principally to lands inclined to be wet and undrained. *Pike:* A large area was sown but froze out, filled with cheat, infested with flies, etc., so that condition averages 41. *Warren:* Badly injured by March freezes, but late favorable weather brought it out; it will however be short. *Holt:* In bloom. *Pulaski:* Large amount of cheat; crop will be short. *Ozark:* Seriously damaged by recent heavy hail-storm.

OREGON.—*Linn:* Believed to be a full average crop in area and condition. *Union:* Area considerably increased and condition excellent. *Walheur:* Doing well.

WASHINGTON.—*Island:* Largest crop since 1875, owing to good season. *Lincoln:* Largest area ever given it, and prospect was never better.

UTAH.—*Rich:* Tried for the first time in years with success.

DAKOTA.—*Brown:* Acreage much less than average, owing to lack of seed and the drought; much land intended for wheat was left unseeded or sown to millet or flax, owing to high winds, drought, and terrible dust storms; northwest half of the county had not an inch of rain in eight months. *Jerauld:* Cool weather caused a fair stool, but the growth is not as strong as wished for. *Douglas:* Low condition, caused by repeated frosts in last of April and first half of May; much of that on clean land promises unusually well, and should be estimated at from 100 to 110, while the balance will range from nothing to 50 per cent. of a good crop. *Beadle:* Cut-worms destroyed entire fields; short, thin, and full of weeds; seed was a long time in coming up, weeds got the start, and the crop will be ruined. *Edmunds:* A large amount not sprouted, owing to severe drought; no rain prior to May 20. *Faulk:* Though very backward, is stooling well, and generally in good condition; good recent rains.

CALIFORNIA.—*Solano:* Prospect not good; too much rain on low land, and many fields are almost taken by cheat; yield will not exceed half an average. *Stanislaus:* Rain in fall prevented seeding, and cold rains later prevented a good stand; a poor crop. *Ventura:* Will be very short on account of excessive wet; it could not be got in in time; short acreage and a poor crop. *San Benito:* Very spotted; while some fields will yield enormously others will scarcely pay for harvesting, caused by different soils; the light porous soils will not retain the water near the surface, while on our best grain land (adobe) water stood for a long time on the surface. *Nevada:*

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Damaged on lowlands by excessive moisture, but looks promising on hill-sides. *Monterey:* Owing to excessive rains winter wheat in northern part of the county is not so good as usual; in southern part of the county it is fully up to the standard. *Tuolumne:* Half crop, but good. *Butte:* Plants not drowned indicate average yield of No. 1 wheat; in some favored localities all conditions average 100. *San Mateo:* Less acreage and in condition backward because of the excessive winter rains. *San Luis Obispo:* Area reduced because of excessive rain at sowing time. *Marin:* Very little sown because of late rains; Hessian flies are eating the crop.

NEBRASKA.—*Phelps:* Looks well. *Saline:* Looks better than ever before, owing partly to the system of drilling. *Dundy:* Better condition than spring wheat; has a good color, but rather thin on the ground. *Gosper:* Gained remarkably in May. *Boone:* Reduced one-fourth by drought; our first good rain last night may improve it. *Lincoln:* Suffered from drought and high winds. *Phelps:* Looks good. *Douglas:* Enlarged area, and condition is more promising than last year's. *Furnas:* Has stooled but very little; without rain soon it will be a failure. *Dundy:* Beginning to show yellow blades at bottom of stalk on new breaking; this is due to the May drought. *Gosper:* Large area; held back by drought.

KANSAS.—*Kingman:* Not so good as last year. *Pratt:* Good prospect; most of it is headed; some will probably be cut by June 15. *Brown:* Will be short in straw and grain owing to the driest spring in years; recent rain started a fine growth; where early sown and not pastured will make a fair crop; late sown and where pastured during the winter will be a comparative failure and may not equal 75. *Atchison:* Drought during the first 20 days of May was the cause of the decline. Heads are short on thin poor land and the crop will be light. A good rain this morning will be of great benefit. *Cowley:* Recent drought very materially reduced condition of wheat; the heavy frost and freeze of Friday morning, May 15, injured it in the bloom and second joint, so much so that it will not make 5 bushels per acre. *Dickinson:* Partial failure of the soft varieties reduced average considerably; no bugs nor flies. *McPherson:* Very short with a thin stand; several thousand acres ruined by hail. *Miami:* Damaged by drought. *Montgomery:* On prairie looks fairly well but on bottoms it is very uneven and patchy, developing large quantities of chess; a few fields that were fairly promising a month ago are filled with chess; early wheat in bloom was injured by a freeze May 16. *Ottawa:* Very dry; wheat short. *Sherman:* Large quantities were winter-killed, plowed up, and replaced by other crops; remainder is generally thin. *Allen:* Heavy rain May 30 places wheat out of danger from drought. *Coffey:* Needs rain very much; no rain in 4 weeks until to day's good shower. *Ellis:* Cold March winds reduced acreage from 150 to 120; remainder looked well until the frost May 16 damaged it and reduced average condition from 110 to 40; suffering severely from drought and unless rain soon comes there will be a further reduction. *Ellsworth:* From May 17 we had local showers with hail and where these occurred wheat is injured very much and was in some cases plowed up. *Franklin:* An assured thing; no bugs; good rain yesterday. *Jackson:* A good soaking rain May 30 may bring it up to average yield. *La Bette:* Some cheat came in May and the yield will not be nearly so large as expected. *Lincoln:* A great deal plowed up and remainder is very short. *Linn:* Did fairly well but needed rain in May. *Meade:* Some early wheat hurt by drought; late seeding doing well owing to recent rain. *Reno:* Now in bloom and looks splendid. *Sumner:* Had an up and down time this season; May 1 found the land very wet and from then to 26th had no good rain and ground was baked; at present having abundant rain and wheat is running up well. *Washington:* A little too dry though light showers prevail. *Woodson:* Seldom sown on high prairie and none has to be plowed up. *Butler:* In the southern part of our county where our wheat is largely grown, an assistant reports that "frost on May 16 almost ruined the wheat; thousands of acres are being mowed, some for feed, some to burn when dry so the ground may be planted to corn." Other sections did not suffer so much. *Cherokee:* Maturing; only danger now from rust as the wheat is in

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the dough; hot sun and so much rain have a tendency to cause rust. *Marshall:* Permanently injured by drought. *Pawnee:* Reduced several points by drought in May; had rains recently and with a continuation of good weather the crop will be fair; damaged slightly by frosts, also by some unknown cause earlier in the season. *Anderson:* More sown than ever before. *Cloud:* Very thin and straw will be very short. *Leavenworth:* A 2¼-inch rain May 30 assured the crop. *Marion:* Improved by recent rain. *Mitchell:* Heading very low; drought all spring. *Saline:* Fears are felt that Hessian flies may damage the crop; only "croakers" entertain such fears; they are ever ready to give alarm and make complaint at the least cause; I have seen no one who could positively say that the fly had damaged his crop. *Scott:* Area sown five times greater than last year; in the southern and western parts of the country it was blown out of the ground by the March wind; in northern and eastern sections it was not so bad; all over the country wheat was damaged last fall and this spring by a worm cutting through the grain and roots; we need rain now. *Wabaunsee:* Splendid and would be 100 or more if some fields were not damaged by flies. *Finney:* Greatly damaged by a wind storm in the last of March. *Barton:* Without rain soon it will not exceed a half crop. *Clark:* Exceptionally good; fully 50 per cent. better than any crop ever grown here; early sown is now nearly ready for the harvester; heads large and well filled; late sown promising but needs rain. *Gore:* Greater part ruined by the May drought; some assistants report good crops and some report failures; wheat is gone in my section; there will be some but no one knows how much. *Thomas:* Considerably damaged by the severe drought and unless rain soon comes the harm will be irreparable; prospect excellent until May 15. *Elk:* Greatly improved of late and now bids fair to be a full crop; now in head and will be ready for harvest June 10. *Jewell:* Hail-storm riddled much wheat in southern part of county.

OATS.

The returns show a slight decline in the acreage of oats as compared with last year, the percentage being 98.7. The decrease is most apparent in Tennessee, Ohio, Kentucky, and New York, while in Indiana, Iowa, Kansas, and Nebraska there is slight increase. The average condition for the whole country is 89.8, considerably higher than that of winter wheat, but below the usual June return.

The winter-killing of grass caused some increase of area in Vermont. Wet weather in the Middle States and in the West caused delay in seeding, and made the crop very irregular in growth. Some areas of late seeding had not germinated on the first of June. In the Ohio Valley in many places oats took the place of winter-killed wheat.

Excessive rains have been injurious to oats in New York, New Jersey and Pennsylvania, and in the low lands of the more Southern States of the Atlantic Coast. Red rust made its appearance at many points on the coast. The winter crop of the South was injured considerably by frosts in March. Drought has been injurious in Florida. Great improvement of frosted areas has transpired in Alabama. "Rust-proof oats" have not been exempt from injury where rust has prevailed. Winter oats in Texas were badly injured by freezing, and excessive rains have not been favorable to development. In Arkansas and Tennessee the crop was injured by wet weather. The season was unfavorable for

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planting in the Ohio Valley. Some Missouri and Iowa areas have suffered from drought, and sections of Dakota make similar complaints.

The *aphis* or wheat louse has been very troublesome in many districts, in the Middle and Southern States, and in the Western States. It has been widely distributed. In some counties, notably in Kentucky, the injury is severe from this cause.

The prospect is not favorable for a large crop. The percentage, 89.8, is the lowest in June for ten years.

BARLEY.

The average condition is low; the lowest reported since 1875. In June, 1879 and 1883, the general condition was reported as 87. Present condition averages 86.4. Last year it was 95.6 in June. Condition in New York is 84; Pennsylvania, 90; Wisconsin, 85; Minnesota, 87; Iowa, 92; Nebraska, 90; Dakota, 95; California, 80. These States produce six-sevenths of the crop of the United States.

RYE.

The condition of rye is better than that of any other cereal, the average being 92.3. It is lowest in Texas and the Carolinas, and also low in Indiana and west of the Mississippi. In the Middle States the averages are high, and relatively so in Ohio, Illinois, and California.

COTTON.

The cotton returns show an increase of acreage in nearly every State. The fair price prevailing, with low prices for other products, stimulates the extension of planting. The overflows in Arkansas and Louisiana delayed planting in those States, and prevented increase which would otherwise have been made. The area as compared with acreage of 1889 is reported in this preliminary investigation as follows: Virginia, 98; North Carolina, 102; South Carolina, 103; Georgia, 102; Florida, 103; Alabama, 102; Mississippi, 102; Louisiana, 95; Texas, 105; Arkansas, 99; Tennessee, 100. Average, 102. There are locations where replanting to perfect stands injured by cold nights is still continued, and will be in extreme cases to the 15th of June. Stands are generally very good in the Carolinas, with exceptions in low areas where frost or cool nights have destroyed plants. In the Mississippi Valley and in Texas heavy rains, local floods, and inundations have caused an unusual amount of replanting, and on the Mississippi and other great rivers delay of planting until the waters recede. In such cases the seed has been dropped in the mud, and the plants have appeared promptly, sometimes in four days from planting.

Except on the Atlantic coast, the excess of rain has retarded chopping out and cultivation, leaving the crop somewhat grassy, though

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recent fine weather has done much to secure clean cultivation. In more southern latitudes the plants are beginning to bloom. While the entire breadth as a rule is late, the plants are healthy and growing rapidly.

Average condition is 88.8. The percentage of Virginia is 90; North Carolina, 98; South Carolina, 97; Georgia, 94; Florida, 92; Alabama, 93; Mississippi, 85; Louisiana, 84; Texas, 84; Arkansas, 85; Tennessee, 87.

The following extracts are made from voluntary remarks of correspondents in forwarding their returns:

VIRGINIA.—*Norfolk:* Is cultivated to a very small extent, but is looking well. *Prince George:* Very small and looks sickly. *Dinwiddie:* Is doing fairly well, and a larger area was planted this year on account of low price and failure of tobacco; some complaint of scarcity of good seed. *Brunswick:* Planted late and looking badly.

NORTH CAROLINA.—*Bertie:* The cotton crop looks fair; a good stand and clear of grass. *Hertford:* Is up well and with favorable season bids fair for a good crop. *Montgomery:* Outlook better than for five years past. *Union:* From twenty to thirty days farther advanced than at this time last year; a fine stand. *Chatham:* The favorable weather has placed the cotton crop well up with the season, and work has been well advanced. *Halifax:* The stand of cotton is very good, but the growth has been checked by cool nights. *Johnston:* A good stand and in excellent condition; the weather has been nearly perfect. *Richmond:* Seasons have been remarkably good; work well up and prospect promising. *Perquimans:* Rather poor stand; late planting not up. *Wilson:* Plant healthy and a fine stand; acreage decreased. *Cabarrus:* Season very favorable and stand is good. *Currituck:* Is in finest condition known; work is far advanced and the stand approaches perfection. *Edgecombe:* Stand good. *Gaston:* In fine condition. *Iredell:* Above an average. *Tyrrell:* A fair prospect. *Cleveland:* A good stand and is doing ordinarily well. *Granville:* Somewhat reduced in acreage on account of the satisfactory prices for tobacco. *Northampton:* Is looking well; is well worked and a good stand generally. *Greene:* In better condition than for ten or twelve years; the stand is splendid and the plant healthy and growing; nearly free from grass and weeds. *Nash:* The cotton crop is the best for nine years; the stand is almost perfect; it is well worked and is promising in every way. *Onslow:* A good stand. *Pamlico:* Condition is the best for years; no such crop seen since 1866. *Pitt:* A very favorable season so far; we had a perfect stand, but lice are giving a little trouble. *Rowan:* Coming up well. *Durham:* A fine stand; in good condition. *Beaufort:* Stand unusually good; free from grass.

SOUTH CAROLINA—*Laurens:* Has come up well, and is two or three weeks earlier than usual. *Abbeville:* Good stand, plant healthy; recent rains by washing and beating have somewhat injured it. *Newberry:* Stand unusually fine, and plant in healthy condition; as a rule it is well fertilized. *Barnwell:* Would be a full average or one or two points above but for recent heavy rain-fall, which will interfere with the culture and the stand. *Beaufort:* Backward in growth, owing to cold and extremely dry spring. *Berkeley:* Good stand, but recent heavy rains have made it very grassy and bent it down. *Colleton:* Is in fine condition, fully up to a good average and improving every day; very little grass, and the crop bids fair to be a large one. *Fairfield:* Stand fine, early, and growing finely; season all that could be desired. *Union:* The season so far has been very favorable to the growth and cultivation. *Anderson:* Condition encouraging; defective stands occasionally give rise to much complaint. *Spartanburgh:* The frost of May 8 caused cotton to turn brown, but a good stand is maintained. *Lexington:* Equals expectations so far. *Lancaster:* The stand is good and plant healthy; never better at this time of the year. *Williamsburgh:* A splendid stand. This crop is two weeks in advance of the average, and at least four weeks ahead of last year's crop; condition very promising.

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GEORGIA.—*Douglas:* Best stand ever known. Crop is suffering for want of work, on account of recent heavy rain-fall. *Lowndes:* Late, owing to drought in April. It came up early in May, and has grown rapidly; stand good. Sea Island was up generally in April and is very fine, beginning to bloom. *McDuffie:* From twelve to twenty days ahead of last year, June 1. Stands good, plants clean and growing well. *Marion:* Greatly injured by bugs and cut-worms where planted late on land not prepared early, or on muddy land, but crop generally very fine. *Walker:* Spring cold and cotton a little late, but a good stand generally. *Wilkes:* Local heavy rains beat down cotton just hoed out. The weather now is just the kind needed. *Jackson:* Good stands and in good condition. *Baldwin:* Unusually good stand for this date. Showers were seasonable from the first to the last planting. Chopping and thinning have progressed steadily. *Liberty:* Looking well; good stands. *Milton:* Doing well, but two weeks late. *Wayne:* An increase in acreage, but not a full stand. Some were late planted, owing to cold spring, and ground too dry in places to bring up the seed. *Dougherty:* Thirty per cent. of the crop came to a stand about the 20th of May, and owing to the scarcity of labor and wet May, is in a critical condition, very grassy and weedy, and a good deal of it not chopped out. Much will be abandoned unless fair weather soon prevails. Cool nights and lice have retarded growth. *Early:* Late and somewhat grassy. May unusually wet. *Gordon:* Farmers say that the stand is No. 1. *Jasper:* Here every agricultural industry is subordinated to cotton. The acreage increases every year. *Stewart:* Looking well. Chopping nearly done. *Troup:* Promising. *Upson:* Stand good and growth fine. *Brooks:* The dry weather in April and May kept the farmers from getting a stand until late. The young cotton is doing well just now. *Cobb:* A very fine prospect at present. *Columbia:* Fine. *Dawson:* Not a good stand at this date; where plant was up it was cut down by frost on May 8th. *Franklin:* The cut-worm has attacked cotton; extent of damage can not be ascertained at present. *Forsyth:* The finest for years. Good stands universal; about ten days or two weeks earlier than usual. *Gwinnett:* Outlook flattering, good stand, and healthy plant is the rule. *Monroe:* Stand almost perfect. *Pierce:* If seasons continue favorable crop will be largely in excess of last year. *Terrell:* Good stand and looks well, but a little too much rain in May. *Thomas:* The long-continued dry weather caused a very late and uneven stand, but the young plants looks well generally. *Walton:* In good condition; fine stands. *Worth:* Fine up to date. *Colquitt:* Planting retarded two weeks or more by dry weather with cool nights; now doing finely. *Taylor:* Stand good, looks well, and is well worked up to date. *Banks:* Good stand; farmers well up with their work. *Berrien:* Later than ever before, owing to spring drought which necessitated replanting. Chopping has just commenced. *Campbell:* Stand above an average, and generally in good condition. *Coffee:* Large acreage planted but is late, caused by continued drought through April and first week in May. What came up before drought set in looks well. *Haralson:* Frost the 6th or 7th of May killed a great quantity. Some replanted. The nights are too cool. *Harris:* Is looking very well. *Houston:* Looking remarkably well. Fine stands throughout the county, though rather backward. *Calhoun:* Is looking well, but about ten days backward. *Chattooga:* Looks well. *Dooly:* Looks favorable, though needing rain. *Greene:* Almost a perfect stand, and as a rule has been well worked. *Jefferson:* Good prospect. *Jones:* Prospect very flattering. *Montgomery:* Poor stands, caused by drought, but rain is now abundant. Some complaint of lice. *Hall:* Small, but stand generally good. Outlook for good crop encouraging. *Hart:* Fine; good stand. Squares are plentiful, fifteen days earlier than usual. *Morgan:* In better condition and better worked then ever known. *Irwin:* Very healthy, considering late, cold spring; cut-worms very bad in some places. Is ten days late, on account of dry April.

ALABAMA.—*Clarke:* Complaint of some damage by cut-worms. A good deal of late planting is just coming up. *Clay:* No complaint about stand and all looking well, considering the cool nights. *Henry:* Cut-worms have injured the crop. Many have

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planted the second time and it is probably early enough to make an average crop. *Cullman:* A small increase, owing to increased settlement. Condition is low, owing to cool nights and hard beating rains. *Sumter:* On account of excess of rain, cotton is small, at least ten days behind in growth and not worked out; the outlook is not favorable to a large yield. *Chambers:* Something like rust on plant; it is not in a very healthy condition. *Jackson:* Weather unfavorable up to this date; too cool and wet. *Lawrence:* Stand perfect and two weeks earlier than last year. *Elmore:* Stands are fair, except in a few localities where there have been heavy rains and storms. *Lee:* Acreage is slightly increased over last year, and but for the scarcity of labor would have been larger than it is. Stands generally good, but continued cool weather keeps the plant back. *Shelby:* The high price of cotton is stimulating great energy in its culture, and with favorable seasons and barring worms a big crop may be expected. *Calhoun:* Backward, but growing well; stands good. *Hale:* Stands very good *Coffee:* Was too dry till about May 10 for cotton to come up, and cut-worms destroyed the stand in many places, a pest never known here in cotton to any extent. They are still getting in their work, though not much injury is being done. The plant is small, but generally clean. It does not look healthy, owing to cool nights and so much rain since May 10. *Dallas:* Acreage increased fully 5 per cent. Stand is good, and condition somewhat better than an average. Cotton aphis somewhat retarded its growth, but it has now taken a start. *Winston:* Growth retarded by rains and cool weather. *St. Clair:* Is now making a fair start; stand pretty good. April and May were excellent months for farm work. *De Kalb:* Stands good; plant healthy. *Limestone:* A great deal better than last year; plant small, but improving. *Marshall:* Was a fine stand ten days since, but the cold nights from 24th to 28th did very serious injury. *Randolph:* There was never a better prospect for a cotton crop.

MISSISSIPPI.—*Amite:* Acreage larger and the plant more promising than last year. With good seasons crop will be large. *Hinds:* The favorable weather of the past four weeks has been advantageous to the young plant. A good crop almost always follows good working weather in May. *Lauderdale:* Stand better than for a number of years; just at present a wet spell retards cultivation, low land getting very grassy. *Union:* Owing to the cold nights the first and second weeks in May cotton has died out, leaving a bad stand, but a great deal of replanting is being done. *Panola:* The first stands planted are very indifferent and have been worked to little extent. The balance has a good stand. *Jones:* Not quite up to an average, owing to late cold. *Lawrence:* No general complaint of condition. *Tishomingo:* Too much rain; grassy, but fine weather makes farmers more hopeful. *Washington:* Four-fifths of county was overflowed, caused low condition. *Le Flore:* All planted, at least three weeks late; cold nights causing a good deal to die; a good deal planted over, 10 per cent. increase in acreage. In southern part of county not quite as backward, but all report condition back and stands not good. *Carroll:* Doing better than was expected after so much wet and cold. Most planters have finished chopping out the first time. Stands average. *Grenada:* Looks bad; about one-half of it leaved out up to this date. *La Fayette:* A good stand and cotton is growing well. Too much rain the first of the month, but dry weather prevails now. *Madison:* Two weeks late, on account of cool nights in May, and excessive rains. Stand is good except where drowned out in low places. *Greene:* More cotton planted than ever before. *Montgomery:* Wet and cool weather the first half of May put early planted in the grass so that stands were further injured in cleaning. Seasons later favorable for growth and work. Late planted healthy and good stand. *Rankin:* Prospects good. *Marshall:* Crop is more promising than last season; good stands obtained except on low spots where it is being injured on account of water scald. Planters are at work with a vim scraping, thinning, and shoveling. Present outlook good. *Sharkey:* As the water receded from inundated lands it was followed up by planting, giving fine stands, about four weeks younger than usual, but healthy and not too late to make a full crop if the remainder of the season proves favorable. *Coahoma:* Planting was ten days late, and there has been too much rain

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with cool nights. Lice injured early planting; late fine; stand is above the average. plant small for this date. *Copiah:* Rains have been injurious; insects are sapping the young plants in some places. *Neshoba:* A good stand, but crop is late. Planting finished May 25. For the past five weeks it has been excessively wet; but little has been worked out. *Lee:* Late; plant small and dwindling and not the vigor usual at this time. In many places is infested with lice and other parasites. *Galabusha:* Nights and mornings were too cool for a time, causing cotton-lice to make their appearance; weather is more favorable and the plant is assuming a healthy condition. *Franklin:* In better condition than last year. At least 75 per cent. scraped out. Stands good. *Leake:* The estimate as given is large. Wet weather during past three months has caused delay in planting and culture, and the cry is "grass, grass," with gloomy prospects. *Monroe:* Stands bad. *Simpson:* At least fifteen days behind, owing to freshets and cool nights. In places blight is visible. *Winston:* Too cold and too much rain for cotton. *Jasper:* Rains have been frequent during the past month and cotton is in the grass, on all clay or "prairie" soils. *Wayne:* Looks well; a good stand, but the most of it not chopped to a stand, and in the grass. *Tippah:* Too much rain has been against cotton, plant however looks healthy and is being rapidly worked out. *Hancock:* Bids fair for an average crop.

LOUISIANA.—*Avoyelles:* Owing to the overflow the acreage is considerably lessened. While many of the inundated people will be able to pitch a crop of cotton, the lateness of the season would indicate not more than half a crop. *Caddo:* Nights have been too cool for cotton. The waters in overflow districts have subsided and replanting is progressing favorably. *De Soto:* It is now normally warm and we hope a stand of early cotton will be preserved, though it looked gloomy enough ten days ago. Late cotton looks well. *Pointe Coupée:* More than one-half our cotton lands under water. Planters are sowing seed as the land gets free of water, and will continue to plant as late as the 15th of June. *Iberia:* Damaged by two much rain and lice. *Bienville:* Doing well. *Cameron:* Too much rain has been injurious in the bottom lands, necessitating much replanting and leaving grass and weeds master of the situation. *Lincoln:* Bad stand and very small; wet, cold spring. *E. Feliciana:* Season now fine for cotton. The first of month too wet and cold nights, hence at least ten days later than last year. The average date for blooms is about the 6th of June; this year there will be very few at that date. *Catahoula;* Upland crops are backward, owing to wet weather. *Tensas:* Very seriously hurt by lice on land not overflowed, also by cold weather, and in many places by seepage water. Lands that have been under water have fair stands, but in many localities the plant is backward. The water is falling very slowly. It is safe to say that an average crop is hopeless. *Franklin:* Acreage was reduced by the flood and a great deal of the planting will be late. Stands are imperfect and the plants are small. Days hot, nights cool. *St. Tammany:* Lice doing some damage on sandy land. *E. Carroll:* Overflow has caused a reduction in area. Is late on account of too much rain and cold. *Ouachita:* About 10 per cent. of crop will not be planted on account of overflow. *Madison:* Shortage of acreage and crop late, all due to Mississippi overflow. *Iberville:* Will be more than an average in acreage, as much overflowed land will be in cotton that was in sugar-cane or corn before being killed out by overflow. Is small, owing to late planting since waters receded. *Jackson:* Two weeks late. Seasons of late remarkably good. *Rapides:* Suffered from overflow of the Red River. A little less than 20 per cent. of the crop was totally destroyed. As the waters are receding it will be replanted, with a fair chance of making an average yield. Plant backward, owing to cool weather. *Vernon:* Late, owing to heavy and continued rains in April.

TEXAS.—*Bastrop:* Spring usually wet and rainy which curtailed crop; only partially cultivated. *Bosque:* Late from not being able to plant early. *Caldwell:* Very grassy, it having rained all through the month of May. If present sunshine continues there will be plenty of time to clean the crop. July makes the cotton crop in this section. *Frio:* Cotton is fine, a great deal blooming now. *Johnson:* Season two

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weeks late and cool; fine growing weather now. *Eastland:* Late, owing to too much rain, but looks well at present. *Fort Bend:* Spring favorable. It has grown rapidly; is now forming well; some blooming, with the finest prospects for a crop we have had for years. *Goliad:* Owing to coolness of spring and excessive rains, cotton is very backward, but there is no let up in attempts to clear the fields, and if present fine weather continues the greater portion will be set right for the coming crop. *Burnet:* Increase in acreage is due to last year's good crop. About half the area is planted and in good condition; the remainder is late cotton. *Angelina:* Have had cool mornings, which is bad for cotton, yet it looks well. A good deal of rain has retarded crops very much. *Comanche:* There is a tendency to quit wheat-raising. Immigration into the county is generally of the poorer class from the cotton States, who can't do without cotton and can raise it without the necessity for cash. Then the cotton crop paid much better last year than any other, hence increase in acreage. *Kerr:* Almost daily showers; cotton is getting very grassy, but upon the whole, crop looks prosperous. *Leon:* Much later than usual and badly in the weeds. *Mason:* Suffered by too much rain about the 1st of May. Some fields were washed out, necessitating replanting. On this account it is a little late. *Taylor:* Owing to a shortage in other crops and new land in cultivation acreage has increased. Crop late, but looks fine. *Coleman:* Growth and condition at present date all that could be desired. *Erath:* Large increase in acreage is due to the fact that oats were frozen out. *Freestone:* Is as a rule a few weeks later than usual, owing to unfavorable weather about seeding time, but the young plants are doing well. Favorable weather will soon give us a very promising outlook. *Grimes:* Acreage fully as large as last year; so many heavy rains caused the low condition. With dry weather for two weeks farmers can get up with their work. *Hamilton:* Unusually large acreage, caused by extreme low prices of other farm products and the advance in price of cotton. Much of our small grain was killed by February freeze, and the land was planted in cotton; in fine condition. *Hood:* Late; too wet in early spring and had to be replanted. Fine stand now; plant growing rapidly. *Jones:* Large increase in acreage, due to increase in population. Generally good stands; growing rapidly. *McLennan:* At least twenty days later than usual. *Webb:* Doing well, though not advanced much yet. *Newton:* Late, owing to wet weather in early part of May. It is now dry and cotton is fast coming out. *Rockwall:* About the 3d of May we had a storm that destroyed nearly all the cotton, necessitating replanting. It is now up and has a fine, vigorous appearance. *Lavaca:* Much has not yet been worked out and is badly in the grass. A good deal was planted late and some the second time in consequence of continued heavy rains. *De Witt:* A good deal in the grass, on account of continued excessive rains. Some fear considerable damage. Should open weather continue a good crop may yet be made. *Ellis:* About fifteen days late, but past two weeks favorable and good stands reported. *Franklin:* Very backward; many planted two or three times before they got a stand. The big rains drowned out nearly everything. *Hunt:* Comparatively late; excessive rains, necessitating the replanting of a considerable acreage. *Jackson:* Overflow and heavy rains have materially injured crop on bottom and flat prairie lands, but cotton, like the popular game of euchre, "is not out until played out;" so unpromising as it is now, the outcome may astonish the natives. *Haskell:* Increased acreage, due to increased population. *Rains:* Fine weather the past two weeks, and crop is improving rapidly. *Red River:* Acreage has decreased some, owing to western fever. The heavy spring rains caused much replanting and made the crop late, but the plant is improving rapidly under the influence of the warm nights. *Van Zandt:* Excessive rains caused replanting, consequently crops are late and not well cultivated. *Lee:* Late, on account of excessive rains and cool nights. With favorable weather, prospects are good for an average crop. *Comal:* About four weeks later than last year; condition bad on black, waxy land, owing to excessive rains; good on light soil. *Denton:* Late, but improving, the past two weeks having been dry and warm. *Henderson:* Thirty days late, but looks

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vigorous on account of last few hot days. *Hill:* At least twenty days late, but is looking very well; prospects for a good stand favorable. *Orange:* Continued rains retard work; will prove injurious if continued. *Live Oak:* Unusually promising. With no disaster the yield is bound to be superabundant. *Madison:* On account of so much rain cotton is backward, small, and in bad condition. Planting not yet finished; where corn has been killed by overflow the ground will be planted in cotton. *Morris:* Increased acreage. Condition bad and two weeks late. All farmers uneasy about boll-worm. *Nueces:* In fine condition; promises a yield of a bale per acre. So far no worms have been seen. *Robertson:* Two weeks late; we have too much rain. *Wharton:* Injured and much replanting necessitated by floods of rain and storms of wind, on April 20 and 21. Since then cool nights have caused lice, and the plant is not so large or vigorous as usual. At least 10 per cent. of the crop abandoned on account of drowning out. *Archer:* Most all up; a large area planted. *Bexar:* Too much rain; grass and weeds have the start now. *Collin:* Set back about a month by numerous heavy rains in April. Most cotton planted then had to be replanted in May. *Anderson:* Late and in bad condition, on account of unprecedented rains. *Bowie:* Acreage and average condition cut short by overflows on bottoms. *Cameron:* Planting behind, owing to long continued drought. That planted during drought had to be replanted. This is the first time that sea-island cotton is being planted, the experiment made by me in this staple last year having proven very successful. *Marion:* Quite small, on account of wet and cold weather the early part of May. *Medina:* A full stand; growth fine; season favorable. Fields are mostly clean from grass and weeds. *Montgomery:* Materially injured, owing to continued rain-fall. Stands bad and overrun with grass and weeds. Farmers discouraged and labor demoralized. *Parker:* Ten to twelve days late on account of rain, otherwise looks well. *Runnels:* Prospects fine. *Wise:* Looks well at present; good stands. *Gregg:* A generally good stand, but late. *Hays:* Early cotton in places destroyed by hail and rain, and much had to be replanted. A good stand from second planting. *Austin:* A portion of most crops had to be replanted; the plant is not as advanced as at same time last year, owing to too much rain. The waters at the Brazos River overflow commenced to recede the 12th. Those who put their seed in the mud have good stands, it coming up in four days. It was not possible in many instances to get hands to work in the mud, which will make the planting two or three weeks late. *Kaufman:* As large an acreage as last year. Many have had to plant three times. *Duval:* The acreage of cotton is fully six times greater than last year. *Guadalupe:* So much rain cotton is in weeds and looks bad; is not yet all planted. *Jasper:* The shortage in acreage has been caused by the big rains, which also caused a fall below the general average. *Jefferson:* Not as good as usual on account of so much rain. *Lampasas:* Planting somewhat hindered by hard rains the last of April and first of May. *Val Verde:* Cotton has doubled in acreage.

ARKANSAS.—*Little River:* Wet weather retarded planting and caused replanting. Many crops are in the grass; chopping in full blast. *Carroll:* Cotton has taken the place of cattle as a money crop. It is much planted on new cleared land. A good stand and seasons now favorable. *Polk:* Planted late; the cool nights keep the plant from growing. *Pope:* Late; a great deal replanted. Not very good stands; is also very lousy. *Union:* Rains frequent during April and May; the temperature low; almost cold enough for frost during the first half of May, which has proved damaging. *Drew:* Looks well, but not worked out; so much rain we have not yet been able to kill the grass. We hope to make a good report next month. *Fulton:* Though late planted, owing to continuous rains, is vigorous and growing rapidly. *Montgomery:* Excessive rains are hard on cotton. *Sevier:* The falling off is attributed to late cold snap. *Van Buren:* Just being hoed out. Stands generally good, though plant came up weak and sickly. *Cleveland:* Plant looks well; chopping commenced on the 20th of this month; rather early. *La Fayette:* Very much behind what is usual, as our river land is being replanted and the outcome remains to be seen. *Perry:*

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Late, owing to heavy rains and overflow; though small, looks well and growing finely. *Yell:* Wet weather has kept planting back. *Baxter:* Cold rain is hard on the crop. *Columbia:* Fifteen days late, but is now looking healthy. *Saline:* Planted late on account of excess of rain. A good stand, and plant looks well. *Franklin:* Two weeks late. Stand is fair, but the cotton is spindling and not of a healthy color. Not more than 25 per cent. is chopped out. Prospect not encouraging. *Grant:* A remarkable season for amount of rain-fall and backwardness. Many farmers not done planting. *Calhoun:* About two weeks late. *Conway:* Cut short by continued wet season, which prevented some wet lands from being planted. Lately no rain, and farmers are working hard. *Craighead:* The cotton that is up looks healthy, but too much rain. Some not done planting. *Jefferson:* Season has been most unfavorable; excessive rains drowned out all low places and replanting continues yet. Last few days favorable. *Mississippi:* Poor showing, due to overflow and the frequent rains. Fully 10 per cent. of the cotton lands will be put in corn. *Phillips:* Stands good, plant healthy, and growing finely. With ten days' clear weather will be in fine growing condition. Crop is ten days later than last year; some in the overflowed sections twenty days later. Some overflowed land will not be planted, hence decrease in acreage. *Woodruff:* Curtailed by continued rains. *Miller:* The acreage is much less than for several years, owing to overflow on low-lands. More land may yet be planted to cotton, as it is yet not too late to seed to cotton. Many of the plantations along Red and Sulphur Rivers are so badly sanded from the overflow that thousands of acres have been made utterly useless. *Crittenden:* Stand good and is being rapidly worked out. *Hot Spring:* Planting ten days later than last year on account of continuous wet weather. *Nevada:* Late spring and freshets following have proved disastrous. *Ouachita:* Owing to excessive rains, crop is somewhat grassy, but the plant is free from rust or lice and in excellent growing condition. *St. Francis:* Fifty per cent. of the land intended for cotton could not be sown, and is either put to late corn or is "lying out," because of the rain. *Hempstead:* Rains have been very heavy for the past month. Farmers can do but little work. Yesterday we had 3.40 inches of rain; what the result will be is only speculation. It is probable that much of the acreage will be given up to weeds and grass and not worked out. *Lee:* Three weeks late; stands excellent and plant healthy. *Arkansas:* Usually the greater portion of cotton is seeded in April; this year nearly all was planted in May. Prospect for full crop rather unfavorable, as it was planted in bad condition owing to continued rainfall the past month. The stand, however, is good. *Randolph:* Late, because of overflows.

TENNESSEE.—*Fayette:* In consequence of an excess of rain and cool nights cotton is still dying out, in many instances the stand being injured thereby. *Bedford:* Poor by reason of cold, wet weather. *Shelby:* Excessive rains retarded planting. Many have not finished, and some have had to plow and plant three times, owing to defective seed and cool nights. *Williamson:* Planted late and season very favorable. An unusually fine stand, and in fine condition. Would have been larger still but for the scarcity of seed. The oil manufacturers and cattle feeders pay so high for the seed that our people sell out too closely. *Gibson:* The planting season still on hand. Delayed by wet weather and the necessity of replanting the early crop. The latter planting up with good average stands, and is being scooped and hoed. *Lincoln:* Not a good stand; cool nights caused it to die out. Some localities lousy. *Tipton:* Had to be replanted after the cyclone of May 9. Much bottom land unplanted, owing to wet. Stands now good. *Chester:* Generally fairly good stands. Looks well; not troubled as yet by lice or other insects. *Lauderdale:* Good stands, much better than last year. *Lawrence:* Late, but prospects favorable for an average of fully 92 per cent., and with late frost may reach 95 per cent. *Dyer:* Very late; many having to replant. Acreage will be reduced fully 20 per cent. It is hard to calculate result at this time; if too dry it will be serious. *Crockett:* Stand poor and late; continuous rain. We had to plow up and replant. Lands are now dry for the first time, and are hard and cloddy. *Lewis:* Very little planted; too wet for crop.

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MISSOURI.—*Pemiscot:* Planting is late, owing to Mississippi River overflow, heavy rains, and cut-worms. Many fields of the young plants were cut down by the worms. Many fields were plowed up and corn planted instead. *Butler:* Too much rain. *Howell:* Area decreased because of excessive rain, which caused a backward growth. *Ozark:* Has been too cold for rapid germination.

FRUIT.

Apples.—The returns of June 1 are the first made relative to the condition of the fruit crop, and even at that date it is rather too early to make a definite estimate of the prospect in the more Northern States. The present season has been somewhat late, and as a consequence in some of the States of large production trees at that date were not yet in full bloom. A favorable report on June 1 does not necessarily indicate a full yield, the crop in most sections of large production usually meeting its most unfavorable conditions after that date, but low condition during the blooming period can not be overcome by the most favorable conditions during the later season. Unlike wheat, corn, and other crops which may, in a measure, recover from a depressed vitality in the earlier stages of their growth, yielding good harvests, the fruit crop if injured early is damaged without hope of recovery. The only possibility of an improvement in the figures of condition of a later month is by error of correspondents in reporting the previous month too low.

The present return shows usually very low condition in those sections of the country where the season is most advanced. In the more Northern States, where trees were only in bud or bloom, correspondents return higher condition, in some States the figures being quite equal to the average of even years. In New York and New England, except Rhode Island, condition ranges from 92 to 98, but the reports are quite generally qualified with the statement that the season is somewhat late, making it difficult to determine what proportion of fruit will set. There is, however, quite generally a profusion of blossoms, with a little complaint of injury already from caterpillars and other insect enemies. In Michigan, Wisconsin, and the Northern Rocky Mountain and Pacific Coast regions there is the same return of high condition, with the same probability that when the bloom has passed it will be found that the set of fruit is not equal to expectations. The correspondents in States where the blooms have most recently disappeared, as in New Jersey, Pennsylvania, and Ohio, refer to this disappointment, much of the bloom not forming fruit.

In those sections of the country where the unusual mildness of the winter induced an early swelling of buds, the severe weather of the first of March wrought great injury. Orchards in many parts of Pennsylvania suffered from this cause, while cold weather and late frosts in Maryland and Virginia, where the season is advanced far enough to fairly indicate the prospect, reduced the condition to 42 and 49, respectively, 100 representing a normal crop free from any damage from insects,

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weather, etc. In the South Atlantic and Gulf States the range is very low, especially in the districts usually producing the most fruit. Georgia reports only 44, Alabama 53, and Tennessee 64. The returns from the Ohio Valley are but little better, Kentucky marking 58, Ohio 62, Indiana 70, and Illinois 78. Michigan and Wisconsin are high, 95 and 92; but trees were just in bloom, and a falling off in the condition next month may be naturally expected.

The best returns from districts where the season is far enough advanced to admit of an intelligent forecast are from the States west of the Mississippi: Iowa 80, Missouri 84, Kansas 86, Nebraska 87.

The general outlook for the apple crop is poor, conditions being uniformly low, except in the northern limits, where bloom is full and injury from cold weather or other unfavorable conditions not yet apparent.

Peaches.—The condition of peaches is uniformly lower than that of apples in almost every State. It is a fruit less hardy and more susceptible to the peculiarly unfavorable meteorological conditions which prevailed during the past winter and spring. Only in Kansas, Nebraska, and on the Pacific coast is there even medium promise. The prospect is poorest in the States where the greater part of the commercial supply is grown. In New Jersey trees bloomed early and spring frosts destroyed the crop, except where from local reasons buds were late. Delaware correspondents uniformly report the crop a failure, not even attempting to report condition by any percentage figure. In Maryland and Virginia the buds which formed fruit were mainly those which bloomed late, after the cold weather.

Rarely in the history of crop reporting by this Department has the condition of any crop at the date of its first return been so universally low.

NOTES FROM REPORTS OF STATE AGENTS.

MAINE.

The weather throughout the month of May was most unfavorable for farm work, and the condition of seeding and generel farm operations have not been so backward on June 1 for many years past. From May 26 to 28 there was a copious rain, which was general in all parts of the State, the precipitation being 3.78 inches, while the total precipitation for the month was 10.47 inches—the greatest amount of rain fall in any one month for the past twenty-one years. In comparison with an average year of normal conditions not more than 65 per cent. of the seeding has been done. In the eastern and northern counties less than 50 per cent., and in some sections scarcely any seeding, especially of barley and corn, has been done.

The acreage in oats will be increased over last year in consequence of conditions which have effected changes in other crops. There will be a smaller acreage in potatoes and corn, and more of the late grains, oats, barley, and buckwheat, although the latter is not as much sown as it was ten years ago.

The condition of mowing lands June 1 is unusually promising. The cool, wet weather during May has been most favorable for grass. There was little killing out during the spring, although some correspondents report a loss of clover from many of the fields. Much of last year's crop of hay is yet in the hands of the farmers and

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will be carried over. This is due to the low price the past winter. Spring pasturing is very forward and in excellent condition, owing, as in the case of the mowing lands, to the cool, wet weather; but the lack of sun to ripen and sweeten the grass has injured the quality somewhat.

Apple trees blossomed freely, and, notwithstanding the cold, wet weather, as early as the average. Some correspondents report a much less bloom of Baldwins than in average years. Correspondents in Androscoggin and Waldo Counties report this variety as almost a complete failure.

NEW YORK.

Although the spring opened early, the season for most crops is late. The month of May was marked with low temperature and excessive moisture all over the State. Grain and grass have in some instances been drowned out by the heavy rains. The unfavorable weather has reduced the average area of all spring crops, and made the condition abnormal. Fields intended for corn and oats have not been planted. The excessive rains seriously interfered with farm work, compelling the planting of seed while the ground was wet and in bad order, or suspending tillage altogether, in some instances, for a week at a time. The result of the unfavorable weather, together with its effect upon farm work, is a low condition of crops of all kinds, except where planted on high, warm, and dry land.

Both wheat and rye are thin on the ground and not well stooled. The area of rye is increasing on account of its hardiness and the value of the straw. Spring wheat is late and light; the same can be said of barley. Oats are quite thin and backward, and while higher in condition than other spring grain, are below an average. In some instances the seed has rotted in the wet ground. Some land designed for oats and other cereals will be sown with millet and buckwheat. The area of clover is increased. It has been killed out considerably by the heaving of the land, and also drowned out, so that the condition is not as high as that of pasture, which is remarkably forward and up to a full average.

Apples blossomed well, but the ravages of the tent caterpillar have been very great. Peach blooms were scattering, indicating a small crop.

PENNSYLVANIA.

In some sections complaint is made of the blades of wheat turning purple, but the stalk and heads are not injured. The heads of rye are claimed to be short and not well filled. Oats and barley were sown late, and a considerable area intended for these crops was not sown at all on account of the wet weather. In many sections the oat blades are turning brown, and in some localities they are covered with a fly. Clover was considerably injured on low lands by too much moisture. Four counties report the roots eaten by worms.

Apple-trees bloomed well, but were greatly injured by frost and excessive moisture. The peach-growing section of the State reports the peach crop a total failure.

VIRGINIA.

The wheat crop has not advanced as the winter and spring prospects indicated; indeed, it has retrograded a great deal, particularly in the last two weeks. The usual number of heads are not coming out, the color is bad, and the effects of frost and insects of many kinds are telling on it. Rust in some places and drought in others, with flies of various kinds, are reported. Much that is said about wheat applies to oats, and the yield will not fulfill the promise of the early spring. Clover and spring pastures are in good condition.

Apples and peaches, particularly the latter, are nearly a total failure, owing to late frosts, by which the fruit was destroyed when the trees were in blossom. Cotton is a poor crop and is suffering from the effects of cold nights.

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NORTH CAROLINA.

Owing to the fly and louse and the freeze in March, all small grain is far below an average. The condition of cotton is up to a full average, but the acreage has decreased 10 per cent. The greatest loss to the farmers this year will be in the apple and peach crop. Both are in a low condition, owing to the freeze in March.

GEORGIA.

The condition of wheat, oats, and rye is low, owing to several unfavorable circumstances, viz: The mild, open winter, which greatly prolonged the depredations of the "destructive leaf hopper," an insect often miscalled "Hessian fly;" the very dry weather during the late winter and early spring; and the severe and unprecedented cold weather of March 1 and 15, which was especially destructive to oats.

The low condition of apples and peaches is due to the impaired vitality of the trees consequent on the heavy crops of last year and the freezes of March.

Corn and cotton are in good, thrifty condition, far ahead of last year at this time, especially as to the stand. Farms generally are in a very fine condition of cultivation.

MISSISSIPPI.

The wheat crop was badly injured by the frost, followed by rust, which will probably reduce the yield one-half. The rye crop is reported to be fine. Oats are doing well. The clover crop is better than usual, and increases in area every year. Spring pastures are in a flourishing condition, much better than usual. The condition of the apple and peach crop is not very promising. The frost in the month of March destroyed the fruit in the middle and northern portions of the State, and a great many valuable trees were killed and many others badly injured. The northern portion of the State will make from one-half to three-fourths of a full crop.

Notwithstanding the wet weather and cold nights of the month of May, the cotton crop is in a flourishing condition, although somewhat choked up with grass and weeds, it being too wet to plow. The Delta or overflowed portion of the State is being planted as fast as the water recedes. The crops in the northern portion of the Delta, where the water first receded, are in fine condition. Our main grass for hay (the *Lespedeza*) was entirely destroyed by the frost. Corn and all other crops are looking well, though in want of cultivation.

LOUISIANA.

Excessive rain has interfered somewhat with the proper cultivation of crops, although as yet no permanent injury is reported. Considerable damage has been done to the oat crop both from cold and wet weather and some rust has been reported even among the red varieties heretofore exempt. Red clover is very little grown. The Japan clover (*Lespedeza Striata*) gains in popularity. Stands of the latter are not up to an average, having been injured by frost.

Fruit, including apples and peaches, may be classed as a failure. What little there is will probably be eaten by insects. Many fruit-trees were badly injured or killed by the freeze of March 1, which caught them when in the full flow of sap.

Cotton planters on uplands report their crop as being from two to three weeks behind. On overflowed alluvial lands, seed is being planted as fast as the water recedes. No plowing being done the work is quickly accomplished, and as corn can not be grown on land affected by overflow, owing to the ravages of worms, an increased area will be devoted to cotton.

Sugar-cane on inundated land is destroyed. Stubble was severely injured by cold weather, but is improving rapidly. Plant cane is excellent and far above an average. Cane culture is being largely increased on uplands and would become general if the

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central factory system was established. Correspondents from the western portions of the State estimate the increase of acreage of rice from 500 to 1,000 per cent. Farmers in the southern portion of the alluvial rice-growing districts report extreme difficulty in obtaining satisfactory stands, owing to back water from the overflow, compelling them to replant, in some instances two or three times.

ARKANSAS.

About the usual area has been sown to wheat. That of winter rye and oats is somewhat increased. The area of cotton on the uplands has very materially increased, while in the lowlands of the Mississippi, Arkansas, White, and Red Rivers, and their tributaries, there will be considerable decrease on account of freshets. Cotton planting has closely followed the receding water in the overflowed districts, except where the land had to be cleared of drift-wood and fences replaced. The early planted cotton, where a fairly good stand was secured, is growing finely, and even in the overflowed portions the seed germinated readily and was followed by a vigorous growth.

KENTUCKY.

All spring crops, especially corn and oats, are fully two and a half to three weeks late, caused by an excess of rain. Wheat looks well, but is heading very low, and the head will be short. This is caused by the rain packing the ground. The grain louse has appeared in many places. Pastures are exceptionally fine. Tobacco plants are plentiful.

OHIO.

Excessive rain-fall, accompanied by low temperature, was the marked feature of May. Grain growing on low, undrained lands has suffered injury from standing water, but wheat generally has improved in condition and made rapid growth. In some southern counties it is heading with promise of a full yield. There is very little complaint of insect pests. Early sown oats show good condition and there is an increase of acreage in many localities. Fruit is greatly damaged. Apples will not make over a half crop, and peaches are generally lost.

MICHIGAN.

The acreage of wheat sown was very nearly the same as last year, but about 10 per cent. has been plowed up on account of winter killing on clay soils. While the month of May has been very favorable for the growth of wheat, it has also more fully developed the winter-killed spots. There has been but a small advance in condition over May 1. The acreage of winter rye has increased quite largely in some portions of the State and decreased in others. Where rye has been sown freely for two or three years past, it is being abandoned because of the trouble it is giving by remaining on the ground, and being drawn out in the manure and growing with the wheat crop the following year. The southwestern part of the State is suffering from that cause this season. The condition of winter rye is much higher than that of winter wheat, which proves that it stood the freezing and thawing much better than the latter. The same conditions apply to the acreage of clover as to winter wheat. There was undoubtedly as much or more sown than last year, but from 5 to 10 per cent. has been winter killed. Several counties report a small worm destroying the apple buds. One county reports the injury from this cause as amounting to one-half of the crop.

INDIANA.

There is no material change in the condition of wheat since May 1. The area sown to oats is the largest for many years and the condition is good. Clover is in good condition with a full acreage. The apple crop looks promising, but the peach crop will be short.

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ILLINOIS.

The temperature was considerably below normal for the first three weeks in May, but for the remainder of the month was above a seasonable average. With the exception of a few localities, there was a deficiency of moisture. The prospects for winter wheat have materially fallen off since the last report. The loss in area by winter killing is greater and the present condition lower in the central division, which contains more than half of the entire acreage seeded to winter wheat. The reports of correspondents show that the area of the crop that will be harvested in this division this year is very little more than two-thirds of the crop of 1889. In the southern division the crop was less injured by the March frosts, but the area here is reduced to 80 per cent. of that of last year, in consequence of frosts and floods. Spring wheat is grown almost entirely in the northern division, and its present condition promises well. Winter rye is in fair condition. There was a less area sown last fall than the previous year, but the reports show very little, if any, loss in area by winter killing. The area sown to oats is less than last year, the decrease being in the southern division, where, on account of excessive rains in many localities, only a small area could be sown. The low condition of the crop in this part of the State is due to the late seeding and cool weather. No insect injury is reported except from Randolph County, where the oat louse, or grain aphis, is doing considerable damage. The March freezes injured clover in many localities in the central part of the State. Only a small area has been plowed up. Pastures are in fair condition considering the cool and dry weather during the greater part of May.

Apples, peaches, and grapes were injured by the heavy frosts of May 6 and 7. There is considerable complaint of apples dropping.

WISCONSIN.

The condition of the soil for grain is good, better than for several years. The copious rain-fall of the month of May has materially improved the condition of all kinds of grain and grass. Corn planting was ten days late, but it is coming up well, with good color. The stand of clover is heavy. Barley is in excellent condition. Oats are looking well and indicate a large crop. Apples and small fruits promise well.

MINNESOTA.

Wheat is backward, but the stand is good. Barley and oats are in the same condition. During the first three weeks of May the weather was cold and dry, but for the past ten days heavy rains throughout the State have improved all agricultural products.

IOWA.

Owing to cold and dry w eather, spring pasture has been scant, but is now rapidly improving. The acreage in barley is considerably less than last year. Apples in the southern part of the State were injured by May frosts, but in the central and northern parts the fruit was not far enough advanced to suffer any injury. Peaches are grown only to a limited extent and about four-fifths of this year's crop was killed by frost.

MISSOURI.

The conditions for the month of May were not favorable for wheat. During the greater part of the month the weather was too cool for a good growth. This, together with the lack of rain throughout the northern part of the State, affected the crop seriously; while in the southeast excess of rain has developed a tendency to rust. In the southwestern section the Hessian fly is doing considerable damage, and there is complaint of injury by the chinch-bug and grain aphis. Many fields in every section

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of the State are showing an unusual amount of chess. As a result of these various injuries a large area of the wheat land has been plowed up, so that notwithstanding the largely increased acreage sown last fall, the number of acres harvested will be less than last year. The acreage of oats is less than last season, owing to excessive rains in the southeast, which continued until it was too late to sow. The condition of the crop is not good, because of the prevalence of the aphis in the southern part of the State, and dry, cool weather in the northern part. The acreage of clover and mowing land has been largely increased; but its condition, together with that of pasture, is not up to a full average. The excessive rains in the southeast, the section in which cotton is grown, seriously interfered with the planting of this crop, and its present condition is low.

KANSAS.

During the month of May the weather was unusually cool, which, with an insufficient amount of rain-fall in the greater portion of the wheat-producing district, has reduced the average condition of winter wheat several points since May 1. Those portions of the State having the heaviest crop last year now show the lowest averages, while the newer counties show the higher averages. The general failure of the plant to shoot has caused a thin stand nearly all over the State. The new breaking of ground is credited with the increase of area and is responsible for keeping the condition as high as it is.

The condition of winter rye is reported three points higher than last month. The plant being more hardy than wheat stood winter weather and drought much better. The indications for an average crop of oats are very poor. The stand is light and short and the heads are filling poorly in many places. The area of clover is the same as last year. Its condition is good except in localities where drought has prevailed.

CALIFORNIA.

Owing to the excessively wet weather during the fall and through the winter until late spring it was impossible to sow as large an acreage of grain of any kind as usual, except in districts having a sandy soil. Another cause of the reduction of acreage is the change in the area of crops. Much land formerly devoted to grain is now planted to orchards and vineyards. The condition of grain has also been injured by the excess of moisture, it being difficult to work the ground. A large part of early sown grain was drowned. Much of the deficiency will undoubtedly be made up by corn and root crops, of which an unusual amount was planted in the latter part of April and May, and which looks uncommonly well.

The condition of apples is below an average, and in many sections the trees are almost stripped of leaves by caterpillars. The wet winter has killed a great many trees wherever they were on peach roots, which includes peaches, apricots, and some almonds and plums. The sap seems to have stagnated and soured, as in many cases the trees died when the leaves had started and the fruit was half an inch in diameter. This occurred on hard subsoils mostly. Perhaps one-fifth of the trees in the State were destroyed from this cause. The fruit crop will not be much more than 50 per cent. of a full average crop.

SOUTH DAKOTA.

Owing to timely rains winter rye has improved 10 per cent. since last report. Spring pasture has lost 10 per cent. in consequence of cold, frosty weather, but is now rapidly improving. Correspondents' reports indicate an increase of 10 per cent. in the area of spring wheat. Most of the late planted was sown on old stubble-fields and plowed under, and is looking well. This method of planting is growing in favor. Early sown barley on fall-plowed land has suffered by hot dry winds. That sowed

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and plowed under is looking well. Severe frosts on the 15th, 16th, and 18th of the month injured apples and pears very much.

Table showing acreage and condition of crops, June 1, 1890.

States and Territories.	Winter wheat.		Winter rye.		Spring wheat.		Barley.		Oats.		Clover.		Spring pasture—Average condition June 1.	Apples—Average condition of the crop June 1.	Peaches—Average condition of the crop June 1.	Cotton.	
	Acreage compared with last year.	Average condition June 1.	Acreage compared with last year.	Average condition June 1.	Acreage sown this spring compared with last.	Average condition June 1.	Acreage compared with last year.	Average condition June 1.	Acreage compared with last year.	Average condition June 1.	Acreage compared with last year.	Average condition June 1.				Acreage compared with last year.	Average condition June 1.
Maine	....	....	99	....	93	93	115	88	110	95	96	93	100	92	....	.....	....
New Hampshire	....	....	95	....	97	93	101	93	100	95	98	93	99	95	98	.....	....
Vermont	....	....	94	....	97	95	105	88	101	96	92	84	94	94	....	.....	....
Massachusetts	....	....	97	....	99	96	102	93	98	97	100	98	99	93	83	.....	....
Rhode Island	....	....	100	....	.....	....	102	94	105	99	100	99	98	98	95	.....	....
Connecticut	93	100	101	99	.....	....	100	98	99	99	103	99	98	70	52	.....	....
New York	98	93	99	90	.....	....	90	84	95	88	103	99	100	94	40	.....	....
New Jersey	98	94	99	97	.....	....	....	....	98	83	100	98	99	67	21	.....	....
Pennsylvania	99	98	100	98	.....	....	94	90	97	93	98	97	99	64	41	.....	....
Delaware	102	95	101	97	.....	....	....	....	102	90	103	99	99	78	....	.....	....
Maryland	98	97	98	98	.....	....	....	....	97	92	102	99	99	42	....	.....	....
Virginia	97	87	98	93	.....	....	101	90	101	91	110	91	99	49	26	98	90
North Carolina	99	70	98	87	.....	....	....	....	99	82	103	93	97	61	31	102	98
South Carolina	90	68	100	80	.....	....	....	....	101	78	110	92	98	53	27	103	97
Georgia	88	55	95	81	.....	....	....	....	96	70	103	94	93	44	26	102	94
Florida	....	....	93	....	.....	....	....	....	99	73	102	....	88	70	47	103	92
Alabama	78	60	97	96	.....	....	....	....	97	87	105	99	98	53	41	102	93
Mississippi	76	68	100	96	.....	....	....	....	103	92	100	98	99	45	28	102	85
Louisiana	....	....	....	....	.....	....	....	....	104	87	106	97	95	43	29	95	84
Texas	75	67	97	80	.....	....	103	92	95	77	108	97	96	47	35	105	84
Arkansas	90	87	101	93	.....	....	....	....	102	87	105	97	97	67	50	99	85
Tennessee	97	72	99	90	.....	....	101	95	93	75	101	96	98	64	43	100	87
West Virginia	98	96	102	99	.....	....	101	92	97	92	101	99	99	40	18	.....	....
Kentucky	94	86	97	96	.....	....	100	88	90	87	101	99	99	58	30	.....	....
Ohio	95	84	98	93	.....	....	94	95	95	90	98	98	98	62	26	.....	....
Michigan	90	69	99	92	.....	....	99	97	99	96	98	93	96	95	80	.....	....
Indiana	89	63	97	83	.....	....	103	93	105	95	98	95	98	70	50	.....	....
Illinois	76	64	96	90	.....	....	89	84	96	90	94	93	97	78	54	.....	....
Wisconsin	....	....	99	....	97	82	98	85	98	95	99	95	93	92	38	.....	....
Minnesota	....	....	100	....	118	97	103	87	101	90	103	96	97	60	....	.....	....
Iowa	....	....	99	....	104	93	101	92	103	93	103	93	90	80	....	.....	....
Missouri	96	77	97	90	.....	....	100	82	99	88	104	94	96	84	44	.....	....
Kansas	109	80	98	88	.....	....	130	87	103	80	110	94	96	86	81	.....	....
Nebraska	....	....	98	....	105	85	102	90	103	88	103	89	90	87	89	.....	....
California	80	86	100	90	.....	....	83	80	92	87	98	98	99	92	75	.....	....
Oregon	103	91	100	97	.....	....	103	91	105	88	106	93	94	96	89	.....	....
Nevada	....	....	....	....	103	90	100	....	100	....	.....	93	95	....	....	.....	....
Colorado	....	....	102	....	110	99	100	97	102	99	109	98	99	94	39	.....	....
Arizona	....	....	....	....	100	91	101	....	101	95	110	99	99	90	50	.....	....
The Dakotas	....	....	102	....	95	90	139	95	95	90	108	9-	87	89	....	.....	....
Idaho	....	....	....	....	101	81	102	....	102	82	105	90	80	....	....	.....	....
Montana	....	....	....	....	102	82	103	85	105	85	100	88	77	....	....	.....	....
New Mexico	....	....	....	....	105	95	102	75	101	98	110	95	87	48	50	.....	....
Utah	....	....	101	....	106	93	100	97	105	99	102	98	99	92	57	.....	....
Washington	....	....	113	....	105	94	103	97	105	96	102	92	94	85	77	.....	....
Wyoming	....	....	....	....	103	93	....	....	....	....	115	98	100	....	....	.....	....
General average	91.2	78.1	98.5	92.3	103.8	91.3	98.1	86.4	98.7	89.8	100.7	95.1	96.1	....	....	102 0	88.8

COTTON PRODUCTION AND TRADE OF THE WORLD.

The cotton-plant can be grown in various sections of the world lying within the parallels of 35° of latitude north and south, and in this belt is contained the largest portion of the land surface of the globe. It is cultivated to a greater or less extent by almost every people inhabiting this portion of the earth's surface, though the districts between 20° and 35°

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north latitude seem now best adapted to its profitable culture. Within these lines lie the cotton districts of the United States, Northern Mexico, Egypt, Northern Africa, and of Asia, except the extreme southern portions of India and the Malay peninsula. South of the equator it is grown in Brazil, where practically almost the whole Empire may be said to be suitable for its culture; in Australia, though its cultivation has never been successfully carried on to any extent; and in Africa, where the extent of its growth and its consumption as yet are mere matters for conjecture and speculation. There, in the islands of the Pacific, and in other lands where civilization has not yet penetrated, it is probable that the scanty dress of millions of people is rudely woven from this universal fiber. In fact, the area on which cotton of some kind may be produced is practically limited only by the requirements for the product. It is at home in so many countries and under such different conditions that it is impossible now, and perhaps may ever be, to determine with exactness the annual product of the world, but it is easy to trace out and record that portion of it which enters into the commerce and consumption of civilized nations. Cotton is the fiber which is adapted for use under the widest conditions of climate and civilization, and it is the only fiber yet known which is and can be produced in such quantities and so cheaply that the permanent demand can not possibly exceed the supply.

The ease with which the fibre of this plant may be twisted and made use of by the rudest appliances, is sufficient to account for the antiquity of its cultivation. It was used in prehistoric times, but by what people first can never be known. Undoubtedly while primitive man in the more northern climes, dependent for food upon the fruits of the chase, was clothed in the skins of wild beasts, his primitive fellow in the favored climes of the south, where the spontaneous products of earth supplied his physical wants, hid his nakedness with coverings of rudely woven fibrous material. He subsisted without game, and skins for clothing were neither available nor suitable. No product could be so readily utilized as the fiber of cotton, and it is probable that the traditional fig leaf was early in the history of man supplanted by crudely woven fabrics. To-day in the interior of the African continent, where civilized beings have rarely penetrated, and trade or barter with the outside world is still unknown, it is known that the little raiment worn by millionsof human beings is largely composed of cotton grown and prepared by themselves. Explorers have noted it, and have found different varieties of the plant adapted to such crude purposes. The annals and traditions of many different nations claim for them the origin of the art of spinning and weaving, just as the Biblical story of the flood, dressed in many languages and embellished with various mythological variations, is found in the traditions of almost every race. Egypt ascribed the invention to Isis. Peruvians believed that the honor belonged to one of their first kings, Manco Capac.

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Sacred books of India show that cotton spinning was in existence in a high state of development in that country more than three thousand years ago, and as this is undoubtedly the most ancient historical record, it is probably safe to recognize the claim that this country was the birthplace of regular cotton manufacture. The walls of the pyramids of Egypt contained pictured representations of cotton preparation and spinning, and the art has been known in China beyond the record of history, though it was probably introduced from India. Heroditus (484 B. C.) mentions the making of cloth from the cotton tree, and Strabo, just before the beginning of the Christian era, says that cotton was a product of Persia, while Pliny speaks of its cultivation in Egypt in 70 A. D. The art of weaving it is said to have been introduced into Europe by the Moors of Spain in the eighth century, but there is no authentic record till about 950, when it was carried on to a considerable extent in Grenada and other cities of Spain. During the earlier part of the sixteenth century it was established in Central Europe, and at a later date in England. France received it during the seventeenth century, and Russia not until the eighteenth.

The discoverers of the New World found cotton an indigneous plant, and its fiber more or less used by the natives. They were strangers neither to its cultivation nor to the art of preparing it. In 1519 Magellan, during his voyage around the globe, found the Brazilian natives using the lint in making their beds. Cortez found cotton manufactures flourishing among the inhabitants of Mexico, who were making soft and delicate fabrics which were declared as fine as those of Holland. They practiced the art with great perfection, weaving feathers and hair with the fiber, and producing clothing, carpets, and other fabrics "of delicate texture and beautiful hue." It is said that as early as 1536 the cotton plant was found growing wild in the lower Mississippi Valley.

When colonization began the cultivation of cotton for exportation was begun in many places. The West Indies were first the scene of activity. It was grown for export at St. Domingo in 1776, but earlier in some of the other islands, and prior to 1785 the islands furnished a large part of the commercial supply. In 1789 Hayti alone exported over 7,000,000 pounds. Cultivation for foreign trade began in Brazil in 1781. It is believed that it was first regularly cultivated in the United States in 1621, the seed coming from the West Indies, but for one hundred and fifty years after that it made comparatively little progress.

Prior to the beginning of the present century but very little statistical information, either as to production or commerce, can be found, and the few fragmentary facts that are available serve to show more the progress of the science of statistics since 1800 than the condition of the cotton trade before that time. This industry, perhaps the most extensive carried on, and certainly one of the most important to the welfare of the human race, is singularly deficient in literature during its earlier peri-

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ods, the industry having only occasional mention in the records of historians and travelers during the centuries over which such records extend. Its literature really begins with the last quarter of the eighteenth century, which was one of wonderful development in all branches of the industry, and that period marks the beginning of the present industrial system. Up to 1760 the appliances used in the preparation of the fiber and the manufacture of cloth were but little advanced over those in use in India thousands of years earlier. At about this date improvements in methods and invention of machinery began to be made in England, advances succeeding each other rapidly.

Naturally in that country, when the fiber was first seen after the lint had been separated from the seed, and thus advanced to the first stage of its manufacture, the study and energy of mechanical genius was directed toward the perfecting of machinery for spinning and weaving. The supply of raw material was ample for present demands, and little thought was taken of a coming necessity for a cheaper product of more ample proportions. Important improvements succeeded each other till from 1780 to 1785 the spinning machines of Hargreaves and Arkwright approached perfection and came into general use. The British factory system took its rise at about this date, and largely consequent upon these inventions. Cotton manufacture had before been carried on in the houses of the operatives, there being no necessity or great advantage in the concentration of hand-carders, spinning-wheels and looms. Following immediately upon this was another event, capable in itself of creating a revolution in the industry—the adaptation of the steam-engine to the purposes of cotton manufacture. In 1785 the first steam-engine was made for a cotton-mill, and it was five years later before it came into anything like general use.

These things combined to make this a memorable period in the history of this industry. The spinning-machines had made possible and necessary the concentration of capital and effort, and the revolution of the wheels of Watts's simple engine infused a life and energy into the industry never before known.

It is a law of progress, the working of which may be seen on every page of the history of the human race, that no want is created by the advance of civilization that is not met by human ingenuity. Improvements in machinery, by the manufacturing people, had now reached such perfection that the question of a sufficient supply of cheap, raw material must at once become the consideration of the hour. From time immemorial the lint had been gathered and the seed separated from the fiber by slow and tedious hand-labor. The earliest methods of India had been followed wherever cotton culture had been attempted, and no improvements of any great value had been made, because none were needed. Necessity is indeed the mother of invention. Till this time it was possible to supply the demand by such antique methods. Now the requirement was sure to be enormously increased, and genius

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must devise a means to cheaply and mechanically prepare the fiber for spinning.

In 1793, almost at the very time the great changes in manufacture were taking place, a resident in the cotton district of Georgia had his attention called to the crude and unsatisfactory methods used in separating the seed from the lint, and, appreciating the necessity for improvement, bent his energies to the task. The result was the saw gin, the invention of Eli Whitney. His machine, simple as it may be, was the demand of the time, and even yet new processes are but improvements of his idea. He alone accomplished for cotton culture in his country what all the English inventors of his day did for its manufacture in theirs. While Whitney was working upon his plans, English manufacturers, foreseeing that, with the improvements already made in spinning and weaving, the West Indies and Turkey, whence their supply of material had been drawn, would be unable to meet the increased demands, were petitioning the East India Company to encourage the production of the fiber in their dominion. They naturally looked to India, the birthplace of the industry, for a cheap and abundant supply of raw material, but this simple machine was destined to revolutionize the then existing order of things. The United States, before left out of all calculations, was hereafter to monopolize the production for commerce, almost to the exclusion of countries which had entered the race centuries earlier.

The invention of the gin with the improvements in spinning and weaving which were practically cotemporaneous, together with the rise of the factory system which naturally followed, marked the beginning of the new era, the modern era of cotton growing. The facts of production and distribution prior to this period have no relation to the present, and are only valuable or interesting historically.

PRODUCTION OF THE WORLD.

It is less than seventy years since the first attempt was made to keep an accurate record of the annual production of cotton in this country, and accurate statistics for other civilized countries where the staple is grown, are only available for a much more recent period. A large proportion of the fiber entering into civilized commerce, and not grown in the United States, is produced in uncivilized countries or in countries of semi-civilization, and of this product there is no accurate record. Its aggregate can only be approximated from the amount entering the channels of trade, supplemented by the probable requirements for domestic consumption. To render still more complicated the task of compiling a statement of the world's aggregate production there are countries and districts where it is largely grown and for which absolutely no data are available. The extent of its cultivation in China is a close secret, though the suitability of its soil and the character of the clothing of the population of the Empire make it certain that the production of the

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country is very considerable. Even in India, outside of the British districts, statements of production are only approximations based largely upon the amount coming into sight and the known requirements of the natives for dress.

The interior of Africa is a vast unknown continent, but the extent of territory capable of growing cotton must be very great, exceeding the suitable area of either America or Asia. The population of this dark quarter of the globe is a matter of the merest conjecture, and while the decrees of fashion demand but scanty clothing, it is known that in all sections of the vast territory yet visited cotton fabrics largely compose the native clothing. It is scanty, but in the aggregate must absorb a large annual production of the fiber. In 1590, a century after the discovery of America, England imported cotton cloth woven by the natives of Guinea, and years ago one of England's great statesmen ventured the prediction that Africa would one day furnish Europe with its supply of the raw material. The greater part of the crop of the world is grown by colored labor, and our Southern States may yet find their competitor for the world's market in their own class of labor at work under the tropical skies of its native home.

When the difficulties in the way of procuring a reliable estimate of the world's product, in this present age of progress and statistical information, are considered, it will be seen how little reliable are statements of that product fifty and one hundred years ago. The increase in production since the introduction of the saw-gin has been enormous, but has been largely confined to the new world. The primitive methods of a century ago are still mainly followed in Asia and Africa, and if the aggregate product of those continents has increased at all, it has been probably only in proportion to population. It is an open question if in the aggregate the last century has not witnessed a decline, on account of the introduction into these lands of cheap manufactured goods. The competition between the new and the old systems of production, between improved implements and machinery and hand power, can have but one result, though the element of cheap labor may support the primitive methods for a time.

Among the earliest and most pretentious estimates of the world's production are those put forth in a letter from Levi Woodbury, Secretary of the Treasury, to James K. Polk, Speaker of the House of Representatives, dated February 29, 1836, and in response to a resolution of the House. The report accompanying gives evidence of a very careful and thorough study of the entire subject. The estimates are evidently based upon the most reliable data to be obtained, and are doubtless as nearly correct as any statement of the product of the world at the dates given could be made. The Secretary states that:

> In forming an estimate of the whole crop of cotton grown in the world in any particular year, I have found no precedent to aid me except for the single year of 1834, when evidence was given before the chamber of peers, in France, that it probably amounted to about 460,000,000 pounds.

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He however discredits this estimate as being too low; incomplete for some countries, while leaving others entirely out of the calculation.

The table presented in the letter gives annual estimates of the crop of the United States from 1789 to 1834 inclusive, but makes a showing of the entire crop of the world for but six different dates in that period. These estimates are as follows:

	1791.	1801.	1811.	1821.	1831.	1834.
United States	2,000,000	48,000,000	80,000,000	180,000,000	385,000,000	460,000,000
Brazil	22,000,000	36,000,000	85,000,000	32,000,000	38,000,000	30,000,000
West Indies	12,000,000	10,000,000	12,000,000	10,000,000	9,000,000	8,000,000
Egypt	.....	.....	83,333	6,000,000	18,000,000	25,000,000
Rest of Africa	46,000,000	45,000,000	44,000,000	40,000,000	36,000,000	34,000,000
India	130,000,000	160,000,000	170,000,000	175,000,000	180,000,000	185,000,000
Rest of Asia	190,000,000	160,000,000	146,000,000	135,000,000	115,000,000	110,000,000
Mexico and South America, except Brazil	68,000,000	56,000,000	57,000,000	44,000,000	35,000,000	25,000,000
Elsewhere	.....	15,000,000	11,000,000	8,000,000	4,000,000	13,000,000
The world	490,000,000	520,000,000	555,000,000	630,000,000	820,000,000	900,000,000

NOTE.—The error in the footings for the first two columns is made in the original document.

The first of these estimates is for a year prior to the invention of the gin, and illustrates admirably the distribution of the industry at the close of the first period in the history of cotton-growing. The year for which the estimate is made, 1791, is almost the last year in which cotton was raised and laboriously cleaned by hand labor for spinning by the primitive methods in vogue before steam power was successfully applied. At that date the United States was practically unconsidered in cotton production, its crop being only about 10 per cent. of that of Brazil, and ranking lowest of all countries in which it was grown. During the succeeding decade the invention of the gin and the revolution of methods which marked the beginning of the present era of the industry, stimulated the culture of the plant in this country, making it one of our agricultural staples. During the ten years the production of this country increased from 2,000,000 to 48,000,000 pounds, making the United States rank as fourth in the countries of production.

Between 1811 and 1821 this country attained its present position of the principal cotton-growing country of the world, and by 1834 it grew more than one-half of the aggregate product of the world. A striking fact is that after 1801 the increase in the aggregate product of the world, as estimated in this statement, was almost entirely made up by the increased production of the United States. Between 1791 and 1834 the increase in the aggregate product of the world amounted to 410,000,000 pounds, while this country alone increased 458,000,000 pounds, showing an actual decline of production elsewhere.

The estimates for the United States presented by Secretary Woodbury are somewhat in excess of the estimates of other authorities, but the facts of consumption and exportation seem to have warranted them.

Beginning with 1827, there is a record of the commercial movement

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of the crop each year in the United States which practically covers the entire production. This actual record, with the estimates of Secretary Woodbury, makes it possible to present the following statement showing our production in periods ten years apart since 1791:

Year.	Pounds.	Year.	Pounds.
1791	2,000,000	1851	1,421,413,340
1801	48,000,000	1860	1,934,545,603
1811	80,000,000	1871	1,384,084,494
1821	180,000,000	1881	2,588,236,636
1831	444,364,650	1888	3,437,408,499
1841	759,903,750		

This wonderful rate of progress has of course not been equaled in any of the other cotton-growing countries, but there are data to show that the aggregate production elsewhere has rapidly increased during the last half century.

In preparing a statement of the aggregate production of the world at the present time, except in the case of the United States, limited data are obtainable showing the actual product of any country, the estimates being necessarily based upon the known facts of exportation, population, and assumed consumption per capita of each. Mr. Thomas Ellison, of Liverpool, after a most careful and painstaking investigation, makes a statement of the world's production at about the date of 1884, which as a whole can hardly be improved upon at present. He says:

The average annual production of cotton in the United States in 1881–'82 and 1882–'83 amounted to 2,814,000,000 pounds net, or 7,035,000 bales of 400 pounds. The crops of the Brazils, Peru, Central America, West Indies, etc., averaged about 300,000 bales of 400 pounds, including about 200,000 bales shipped to Europe. Official inquiries show that the annual average per capita consumption of cotton goods in India is from 2¼ to 2½ pounds. Taking it at 2½ pounds on 254,000,000 people, we get at the quantity of cotton produced as follows:

		Pounds.
Total consumption of cotton fabrics at 2½ pounds per head		635,000,000
Less received in yarns and goods from Great Britain	364,000,000	
cotton received from Persia	6,000,000	
		370,000,000
Total consumption of native cotton manufactures		265,000,000
Add, Indian yarn and goods exported to China, etc		40,000,000
cotton exported to China, etc		40,000,000
exported to Europe		635,000,000
Total crop (equal 2,450,000 bales of 400 pounds)		980,000,000

Twenty years ago it was customary to estimate the Indian crop at from 5,000,000 to 6,000,000 bales, some authorities going even as high as 10,000,000 bales. Similarly exaggerated views have been current in respect of the quantity of cotton produced in China, but the fact that 20*d.* to 30*d.* per pound for American, and 12*d.* to 24*d.* per pound for Surats, did not draw from China and Japan more than 420,000 bales of 400 pounds, or an average of only 105,000 bales per annum, during the four years of the American war, proved beyond a doubt that the crop was considerably smaller than

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even that of India. Careful investigations made by the Japanese Government show that the consumption of home and foreign cotton goods in Japan averages about 2¼ pounds per head per annum, against the Indian estimate of 2½ to 2¾ pounds. The accuracy of these computations is further confirmed by the fact that the weight of English and Dutch cotton products annually imported into Java averages about 2⅝ pounds per head. So that it is quite safe to assume that in all these and other Eastern countries the average annual per capita consumption of cotton goods is about 2½ pounds. Adopting this figure for China, and taking the population at 300,000,000, which is the estimate of the best and most recent authorities, we get at the crop as follows:

		Pounds.
Total consumption of cotton fabrics, at 2½ pounds per head		750,000,000
Less yarn and goods received from:		
Great Britain	110,000,000	
India	30,000,000	
Raw cotton received from India	40,000,000	
		180,000,000
Total consumption of native cotton		570,000,000

Equal, in bales of 400 pounds, to a crop of 1,425,000 bales.

A similar calculation for Japan, Java, Philippine Islands, Siam, etc., containing an aggregate population of 70,000,000 persons, comes out as follows:

		Pounds.
Total consumption of cotton fabrics, at 2½ pounds per head		175,000,000
Less yarn and goods received from—		
Great Britain	102,000,000	
India	5,000,000	
Holland	15,000,000	
		122,000,000
Consumption of native cotton, almost exclusively Japanese		53,000,000

Equal, in bales of 400 pounds, to a crop of 132,000 bales.

As nearly as can be ascertained, the crops of Turkey and Persia amount to about 48,000,000 pounds, or 120,000 bales of 400 pounds. About 40,000,000 pounds or 100,000 bales are raised in Asiatic Russia. Adding these figures to those of India, China, and Japan, we get 4,227,000 bales as the crop of all Asia.

The Egyptian crops of the two seasons 1881–'83 averaged about 250,000,000 pounds net, or 625,000 bales of 400 pounds. Almost the whole of this is exported to Europe. A large quantity of cotton is grown in the coast places and interior of Africa, but one can only guess at its amount. As the natives are for the most part more economical than fastidious in the matter of clothing, it will, perhaps, be sufficient to estimate the requirements of all Africa at an average of 1¼ pounds per head per annum, or one-half the per capita rate adopted for India. The most recent authorities estimate the population of the Continent and neighboring islands at about 200,000,000. At an average of 1¼ pounds per head, these would require 250,000,000 pounds of cotton fabrics per annum. Deducting the weight of cotton fabrics imported—say 80,000,000 pounds from Great Britain, 10,000,000 from India (partly Manchester goods re-exported), and possibly 10,000,000 from other places, or a total of 100,000,000 pounds, there would remain 150,000,000 pounds, or 375,000 bales of 400 pounds, as the amount of cotton crop of Africa, aside from that of Egypt, and making with that a total of 1,000,000 bales.

During the height of the cotton famine Italy and Greece produced from 100,000 to 120,000 bales, but it is doubtful if they now produce more than about 10,000 bales. Adding these figures and 2,000 bales for Australia and Fiji, to those already given for America, Asia, and Africa, we get the following account of the cotton crops of the world in bales of uniform weight of 400 pounds.

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	Bales.	Per cent.
United States of America	7,035,000	55.95
South America, West Indies, etc	300,000	2.38
East Indies	2,450,000	19.48
China	1,425,000	11.33
Japan	132,000	1.05
Turkey and Persia	120,000	0.95
Asiatic Russia	100,000	0.80
Egypt	625,000	4.97
Africa (except Egypt)	375,000	2.99
Italy and Greece	10,000	0.08
Australia, Fiji, etc	2,000	0.02
Total for the world	12,574,000	100.00

These figures show that the United States, which did not commence the business of cotton cultivation until about one hundred years ago, now produce more of the fiber than all the rest of the world put together; while India, "the cradle of the cotton industry," does not raise two-fifths of the quantity grown in the Sunny South.

Assuming that the estimate of the Secretary of the Treasury for 1834, before presented, is entitled to as much respect as is due the careful compilation of Mr. Ellison for the present time, it appears that the increase in production in the United States and the rest of the world is very much the same, this country producing 51 per cent. of the whole at the first period and 56 at the last.

This close harmony of proportions is, however, rather evidence of error than of correctness of the first estimate. It is probable that in the statement for 1834 the product of the world outside of the United States was underestimated. Natural pride in the progress of this country may have led to an underestimate of results elsewhere, and at any rate it is hardly reasonable to suppose that in all other countries the aggregate of production declined between 1791 and 1834. Such a decline was to be expected and has actually taken place in those countries which have failed to take advantage of all modern improvement, where hand labor, the bow-string, and primitive methods still prevail; but it is hardly reasonable to suppose that the increase in production which has taken place in this country at the period referred to was sufficient to meet the increased demands for consumption in civilized countries and displace to any extent the crude home manufactures of countries which had supplied themselves for ages and were not actively engaged in commerce.

In the table of Secretary Woodbury "The rest of Asia" is made to include China, Japan, Persia, Arabia, and Turkey, and for these countries, with their teeming population, an estimate of only 110,000,000 pounds is made. These countries, excluding Arabia, by Mr. Ellison's estimate, grow 670,800,000 pounds. In them all the same primitive methods of culture and preparation are followed, the amount of the raw manufactured product exported is insignificant, and the amount grown is used only for domestic manufactures. Granting that the consumption per capita has increased somewhat, there is now an immense importation of cheap manufactured goods to supply the increased de-

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mand, so that the production ought not at the most to more than keep pace with the growth of population. It is not possible to maintain that the population of these old nations has increased sixfold in less than sixty years, yet the present production is estimated six times greater than the estimate of 1834. The United States, with a growth which has been the marvel of the century, has only increased its population fivefold in that time, though between 1831 and 1889 the cotton production was increased nearly eightfold.

Instead of 51 per cent. of the cotton of the world being produced in this country as early as 1830, it is more reasonable to believe that the proportion was considerably smaller, and that it has materially advanced since that time.

The history of cotton-growing in the United States is very interesting, its remarkable development being one of the prominent features of our marvelous national growth. From an insignificant beginning, in less than a century we have reached a stage where we grow more than one-half the world's product, and supply more than three-fourths of the fiber for spinning in the civilized world.

It was cultivated, perhaps as much as a curiosity as for practical purposes, early in the seventeenth century, but as late as 1784 so little thought was given to America as a producing country that in that year a vessel having on board 8 bags of cotton of American growth was seized by the authorities in Liverpool on the ground that America could not grow so much. In 1785 14 bags were exported to Liverpool, and during the five succeeding years the shipments were 6, 109, 389, 842, and 81 bags, respectively, estimated to weigh 150 pounds each. It is certain that a portion of these shipments was of fiber grown in the West Indies and shipped through American ports, but what proportion it is impossible to determine, though the fact that in 1791 we exported only 189,316 pounds, and during the same year imported 333,124 pounds, indicates that the larger part of our shipments at that date were of foreign growth.

The little importance attached to our cotton production by our people and statesmen prior to the invention of the gin is aptly illustrated in the discussion of the subject by Alexander Hamilton in his famous report upon manufactures, of December, 1791. The tariff act of 1789, the first passed by the new Union, placed raw cotton upon the free list, but among duties imposed by the acts of August 10, 1790, and March 3 and 4, 1791, was one of 3 cents per pound on imported cotton, and it was for the removal of this duty that Secretary Hamilton argued. He said:

> The present duty of 3 cents per pound on the foreign raw material is undoubtedly a very serious impediment to the progress of those manufactures. Cotton has not the same pretentions with hemp, to form an exception to the general rule.
>
> Not being, like hemp, a universal production of the country, it affords less assurance of an adequate internal supply, but the chief objection arises from the doubts

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which are entertained concerning the quality of the national cotton. It is alleged that the fiber of it is considerably shorter and weaker than that of some other places, and it has been observed, as a general rule, that the nearer the place of growth to the equator the better the quality of the cotton.

In lieu of the duty which he asked to have taken off, he proposed the payment of a substantial bounty for cotton of domestic growth when manufactured within the country, to which a further bounty on the exportation of it might be offered. As an example of such bounties and their beneficial influence, he cited the case of Great Britain, where they were paid upon coarse linens and cotton goods of similar value. Three years after this famous report was written the gin had been perfected, and the cotton industry and trade of the world was revolutionized. The import duty was maintained until 1846, when it was made free, and our growing manufactures found the domestic supply not only abundant but cheaper, and of more desirable quality than that grown elsewhere, "nearer the equator." We have always imported, and continue to import, some cotton, but the amount is insignificant, and it is undoubtedly mainly of the long-stapled varieties demanded for peculiar goods, though, as the bulk comes by way of the United Kingdom, its country of origin is lost. A statement of our imports and exports, at periods twenty years apart since 1792, shows the relative changes in both branches of our foreign trade since the organization of our Government:

Year.	Imports.	Exports.	Year	Imports.	Exports.
	Pounds.	*Pounds.*		*Pounds.*	*Pounds.*
1792	2, 531, 743	138, 328	1852	244, 548	1, 093, 230, 639
1812	494, 073	28, 887, 377	1872	2, 894, 183	933, 537, 413
1832	442, 688	322, 215, 122	1889	7, 973, 039	2, 384, 816, 669

In our early history, when our population was small and scattered and our per capita consumption of cotton goods much smaller than now, the impetus given to production caused it to increase much more rapidly than the demand for home consumption, the excess being readily absorbed by the world's demand for cheap and abundant fiber. When the marvelous increase in production began, our manufactures were crude and small, the restrictive legislation of Great Britain having materially assisted in retarding their development. That country was then endeavoring to build up a manufacturing and commercial supremacy that would enable her to manufacture for and do the carrying trade of the world, and clearly seeing that this country might in the natural order of things become a great and formidable rival, she adopted the most stringent laws and measures to prevent the establishment of manufactures here. In 1774 it was enacted (14 George III, chapter 71), that any person exporting tools or utensils commonly used in cotton or linen manufacture, or any parts of such tools or utensils, to North America, should not only forfeit the same, but £200. The improvements in machinery which were being made in that country were jeal-

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ously guarded, and the shipment to America of machinery or models was prevented. In 1786 a complete set of brass models of some machinery was surreptitiously obtained and packed to be sent to this country by an agent of Philadelphia parties, but upon the eve of shipment it was discovered and seized. The efforts of the mother country, however, were unavailing, and cotton manufactures in this country rapidly increased, materially assisted by the natural mechanical genius of our people.

The United States now consumes in its cotton manufactures between 30 and 33⅓ per cent. of its annual production of the fiber, and the proportion is slowly but steadily increasing. Prior to 1840 more than three-fourths of our production was consumed in foreign mills, but our manufacturing interests have increased by a little more rapid ratio than our production. The following table presents in condensed form the average production and exportation, by decades, from 1841 to 1880:

Period.	Production.	Exportation.	Per cent. exported.
	Pounds.	*Pounds.*	
1841–'50	1,013,706,315	739,182,698	72.9
1851–'60	1,656,207,661	1,118,106,790	67.5
1865–'70	1,297,745,903	860,437,420	66.3
1871–'80	2,183,174,113	1,493,829,284	68.4
1881–'88	3,084,627,890	2,082,339,412	67.5

With the exception of the period from 1871 to 1880 the proportion exported during each decade has declined. This break in the decline is due to the fact that production under the stimulus of free labor temporarily outrun the increased capacity of our mills, but during the eight years since the demand has again adjusted itself to the enlarged supply, and the proportion of the crop seeking foreign markets again continues to grow smaller.

The cultivation of cotton in our southern States early became the paramount industry, so dwarfing and overshadowing all other agriculture and productive industry that there was a lack of that systematic and harmonious development of all resources and diversification of occupations so necessary to the highest prosperity of a State and people. Cotton was king, and it dominated all economic, commercial, and even political ideas. All energies were devoted to the growing of one staple, and farmers of a great agricultural district were too often dependent upon the fields of another section for food for themselves and work animals. It was an anomalous condition that it is not even yet entirely unknown, though a marked diversification of rural pursuits has taken place. Prior to 1840 the consumption of cotton by mills located in the States growing it was practically nothing, so small that it was not taken into commercial account until 1843–'44. The development of manufactures had been confined almost entirely to the North, mainly New England, but in that year 71,000 bales were spun in the South against

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336,000 in the North. An interesting comparison of the average consumption of domestic mills in each section since the war, in periods of six years, is presented. The figures represent actual consumption in bales of 400 pounds each:

Periods.	North.	South.	Total.
	Bales.	*Bales.*	*Bales.*
1866-'67 to 1871-'72	939,000	94,000	1,033,000
1872-'73 to 1877-'78	1,324,000	157,000	1,481,000
1878-'79 to 1883-'84	1,845,000	272,000	2,117,000
1884-'85 to 8888-'89	1,926,000	439,000	2,365,000

The last period represents but five years, but its figures are eloquent of the progress of the "New South." That section shows an increased mill consumption of more than 60 per cent. over the preceding period, while the mills of the North during the same period increased their capacity only 4 per cent.

TRADE OF THE WORLD.

Cotton manufacture is carried on, to some extent, at least, in every country where the fiber is grown, though outside of Europe and the United States it is generally crude and by the most primitive methods. These countries weave the greater part of the cloth consumed in the world, and the fiber, in its raw and manufactured state, forms one of the most important items of their commerce.

The United Kingdom, by reason of its peculiar position and advantages, with its commercial supremacy, is the leading manufacturing nation. Her limited area, teeming population, and insular location make her naturally a manufacturing country, and this branch of industry was early developed and its improvements jealously guarded. Until within a year or two that country consumed more raw cotton in its domestic manufactures than the whole continent of Europe, but the continental countries are rapidly increasing the capacity of their mills and now demand the larger supply. The annual average trade of Europe in raw cotton for a period of ten years is thus presented:

Countries.	Period.	Imports.	Exports.	Net imports.
		Pounds.	*Pounds.*	*Pounds.*
Austria-Hungary	1877-'86	176,435,968	18,200,592	158,175,376
Belgium	1877-'86	48,522,985	.....	48,522,985
Denmark	1877-'86	961,640	911,033	50,607
France	1877-'86	300,153,424	80,645,370	219,508,054
Germany	1877-'86	370,518,480	59,776,384	310,742,096
Great Britain and Ireland	1877-'86	1,588,122,771	210,522,962	1,377,599,809
Italy	1877-'86	116,150,674	32,129,620	84,021,054
Netherlands	1877-'86	89,968,976	64,393,059	25,575,917
Norway	1877-'86	4,849,459	.....	4,849,459
Portugal	1877-'86	7,690,968	.....	7,690,968
Russia in Europe	1877-'86	229,451,573	.....	229,451,573
Spain	1877-'86	97,988,297	.....	97,988,297
Sweden	1877-'85	21,239,973	.....	21,239,973
Switzerland	1877-'86	50,373,236	.....	50,373,236
Total	.....	3,102,428,424	466,639,020	2,635,789,404

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The receipts of Great Britain and Ireland were more than those of all other countries. Germany, Russia, France, and Spain follow in order. This country is only exceeded in cotton manufacture by the United Kingdom, and should, ere many decades pass, attain the first rank.

According to the reliable records of Ellison & Co., of Liverpool, the United Kingdom now consumes about 37 per cent. of the cotton of the world which enters the channels of civilized commerce, the rest of Europe 38 per cent., and the United States 25 per cent. Some fifty years ago, or during the period from 1841 to 1845, the average proportions were materially different. Then the United Kingdom used 55 per cent. of the supply, the continent 30 per cent., and the United States only 15 per cent. This cotton is supplied by America, Brazil, East and West Indies, Egypt, etc., this country now furnishing 77 per cent. of the whole against 86 per cent. fifty years ago. The cause of this slight decline in the proportion has been the heavy increase in the shipments from India, a trade stimulated to the greatest possible extent by English interests.

The following tables present in very condensed form the average consumption and supply in different five-year periods since 1841:

CONSUMPTION.

Periods.	Great Britain.	Continent.	United States.
	Pounds.	*Pounds.*	*Pounds.*
1841-'45	521, 300, 000	267, 200, 000	152, 500, 000
1851-'55	750, 100, 000	451, 400, 000	261, 400, 000
1861-'65	628, 600, 000	455, 400, 000	181, 200, 000
1871-'75	1, 228, 600, 000	856, 600, 000	524, 700, 000
1881-'85	1, 441, 100, 000	1, 314, 900, 000	856, 700, 000
1886-'89	1, 508, 700, 000	1, 510, 100, 000	994, 400, 000

SUPPLY.

Periods.	America.	Brazil.	West Indies.	East Indies.	Egypt, etc.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
1841-'45	816, 300, 000	18, 900, 000	9, 400, 000	72, 600, 000	23, 000, 000
1851-'55	1, 254, 700, 000	27, 100, 000	6, 300, 000	134, 800, 000	60, 000, 000
1861-'65	531, 700, 000	36, 200, 000	14, 600, 000	491, 300, 000	191, 400, 000
1871-'75	1, 682, 300, 000	108, 800, 000	42, 300, 000	538, 500, 000	238, 000, 000
1881-'85	2, 717, 200, 000	54, 100, 000	11, 600, 000	540, 300, 000	292, 500, 000
1886-'89	3, 095, 400, 000	55, 500, 000	13, 300, 000	552, 400, 000	296, 600, 000

The export trade of countries which lack even and systematic development of all resources and industries is largely made up of raw agricultural products. The foreign trade of the United States is made up to the extent of some 73 per cent. of farm products, and raw cotton constitutes about one-third of the aggregate value, but the proportion of cotton and of all agricultural products is declining. As our population becomes denser, and our industries more diversified, we shall send abroad a smaller proportion of fiber and more manufactured goods, re-

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taining for our own people both the profit in growing and spinning. At present, with the steady development of our manufactures which has taken place, we purchase cotton goods abroad, buying last year nearly $27,000,000 worth, while we exported only $10,000,000.

This country possesses natural advantages which should make it the leading cotton-manufacturing as it is cotton-growing country of the world. The raw product produced at home in unlimited quantities is available without the expense of long distance transportation, while the inventive and progressive genius of our people insure the best machinery and methods. Our planters will continue to supply the demand from the Old World, but it will be a secondary object, the demand for domestic consumption being the first and more profitable. Cotton goods of American manufacture should be found in every market of the world, and especially should we monopolize this trade in our sister Republics of North and South America.

B. W. S.

DOMESTIC AND FOREIGN WOOLS.

The development of wool-growing has been one of the most beneficent creations of our rural industries. Between 1860 and 1883 the numbers of sheep were more than doubled and the wool product quadrupled. The reduction of duties, and still more the wide range of Asiatic and other wools introduced under an absurd classification at a nominal duty, reduced their numbers about seven millions. So-called carpet wools, worth from 8 to 28 cents per pound and used for the coarsest carpets and for the finest fabrics, have been imported at a discrimination utterly trivial and ineffectual. But for this American manufacturers would consume very little except American wool; and the imports of woolens, including the shoddy and vegetable fiber with which so many foreign fabrics are filled, contain scarcely half as much real wool as is popularly supposed to be imported in this form; so that much the larger portion of a wool consumption that is phenomenal is the product of the United States.

The product of the present year (year ending with the spring shearing) is larger than that of last year, yet considerable short of the maximum production; it may reach 280,000,000 pounds. The census of 1860 reported 60,264,913 pounds, and with an allowance for pulled and other wool, made just about one-fourth of the present annual product.

IMPORTS.

Practically the inducement to import wools at all is a single motive, cheapness. Worsted wools have dwindled almost to nothingness in the imports, because they are dear; merino wools in small proportion are still imported, but seven-tenths of all imports come under the third classification, which is a drag-net for the wools of the world, English

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and merino blood only excepted. The following summary gives the average imports of two decades:

	Clothing wool.	Combing wool.	Carpet wool.	All wool.
Average, 1869–'79	7,111,715	12,528,779	29,057,407	48,697,901
Average, 1880–'89	19,305,070	5,654,293	63,484,036	88,443,399

Here clothing and combing wools exchange positions; while one increases from 14.6 to 21.8 per cent. the other declines from 25.7 to 6.4 per cent. The high price and scarcity of combing wool induced a change of machinery for combing the shorter merino grade wool, and thereafter the old style worsted wools were neglected. Such changes refute the notion, promulgated for a purpose, that certain styles of wool are forever relegated to specific places in manufacture which are fixed immovably. A similar pretense, still more flimsy, is that of mixing various wools, just as bakers mix flours of different countries, and vinters combine wines to obtain certain flavors. There is altogether too much of mixing, for purposes of sophistication, of imitation for greater cheapness, and this is the prevailing sin of manufacture at the present time. A showing of the distribution in classes of imported wools is interesting and instructive:

Wools entered for consumption in the United States from 1867 to 1889, inclusive, stated by years for each class, quantity, and value.

Years.	No. 1. Clothing wool.		No. 2. Combing wool.		No. 3. Carpet and similar wools.		Total pounds.
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	
1867	1,270,356	$415,609	150,302	$31,827	36,263,017	$5,332,074	37,683,675
1868	4,681,679	918,588	1,804,272	332,315	18,096,600	2,704,768	24,582,551
1869	2,512,202	505,715	4,533,367	1,092,297	27,650,371	3,653,082	34,695,940
1870	6,530,493	1,249,152	2,752,569	765,147	29,351,006	3,416,024	38,634,068
1871	5,957,461	1,201,201	17,605,600	3,167,835	26,550,995	3,835,638	50,174,056
1872	16,871,332	4,183,960	41,155,460	8,952,131	36,289,141	6,435,488	94,315,933
1873	6,029,488	1,744,200	49,540,231	12,723,501	28,642,863	5,998,465	84,212,582
1874	2,398,210	815,307	27,087,438	6,193,150	27,308,090	4,603,410	56,793,738
1875	13,117,679	3,602,535	7,769,157	2,153,261	30,799,458	4,472,826	51,686,294
1876	8,643,366	2,187,713	3,167,307	1,153,504	28,465,005	4,546,398	40,275,678
1877	9,294,029	2,202,639	2,509,954	830,715	28,310,411	3,979,617	40,114,394
1878	9,916,012	2,431,043	3,028,869	960,683	26,856,280	3,594,640	39,801,161
1879	5,229,987	1,114,301	1,709,601	413,761	33,163,054	3,988,752	40,102,642
Total	92,452,294	22,571,963	162,874,127	38,779,127	377,746,291	56,061,162	633,072,712
Average	7,111,715	1,736,305	12,528,779	2,983,010	29,057,407	4,312,397	48,697,901
1880	26,785,172	6,412,273	13,266,856	3,801,730	59,320,412	7,699,663	99,372,440
1881	20,609,707	4,751,454	4,421,491	1,271,332	42,385,769	6,038,041	67,416,967
1882	13,489,923	3,042,407	2,318,671	648,252	47,208,175	6,642,699	63,016,769
1883	11,546,530	2,567,443	1,873,114	343,987	40,130,323	5,580,558	53,549,967
1884	20,703,843	4,700,605	4,474,396	1,058,758	62,525,692	7,833,936	87,703,931
1885	17,472,432	2,994,534	3,891,914	921,252	50,782,306	5,558,479	68,146,652
1886	23,321,759	4,344,189	4,872,739	1,106,116	79,716,052	8,343,908	107,910,550
1887	23,195,734	4,329,498	9,703,962	2,270,058	81,504,477	9,741,814	114,404,173
1888	16,952,513	3,648,780	5,568,068	1,322,862	74,710,686	9,090,459	97,231,267
1889	22,973,088	4,764,015	6,651,719	1,556,309	96,556,467	11,112,435	126,181,274
Total	193,050,701	41,565,197	56,542,930	14,300,656	634,840,359	77,641,992	884,433,990
Average	19,305,070	4,156,520	5,654,293	1,430,066	63,484,036	7,764,199	88,443,399

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It is seen that combing wool is higher in the last decade, 25.3 instead of 23.8 cents, and it is therefore declined. The clothing or merino class is lower, 21.5 instead of 24.4 cents, and it is consequently imported in far greater quantity. The third, or nondescript class, which ranges from almost worthless fiber to the most valuable imported, offers inducement to ingenuity, in machinery for its manipulation, and to fraud in pretense of meeting the loose requirements of the law in this class, with the result of constant increase in quantity, almost the sole motive of which is cheapness. The following arrangement of these imports does not show the wide range of quantity and price; but a subdivision on the line of 12 cents per pound, gives a suggestive hint of it, as follows:

Years.	Wools costing 12 cents or less.		Wools costing over 12 cents.	
	Pounds.	Cents per pound.	Pounds.	Cents per pound.
1883	28,477,593	12.1	11,652,730	18.4
1884	46,654,102	11.0	15,871,590	16.6
1885	45,073,356	10.1	5,708,950	17.3
1886	71,550,878	9.7	8,165,174	17.1
1887	61,811,967	10.0	19,692,510	18.1
1888	54,703,172	10.1	20,007,514	17.9
1889	75,799,718	10.2	20,756,467	16.4

Thus the ingenuity of mechanism and skill in manufacture has nearly expelled English wools from the market, and replaced them with certain styles of merino and various Asiatic wools. The motive is cheapness rather than inherent and peculiar quality.

The following statement presents the volume of imports by decades:

Net importation of raw wool, 1822 to 1887.

Periods.	Aggregate.	Annual average.	Average imports per capita.
	Pounds.	*Pounds.*	*Pounds.*
1822–'30	16,936,307	1,881,812	.2
1831–'40	62,865,275	6,286,528	.4
1841–'50	139,764,592	13,976,459	.7
1851–'60	230,106,287	23,010,629	.9
1861–'70	501,611,132	50,161,113	1.4
1871–'80	640,916,638	64,091,664	1.5
1881–'89	786,862,753	87,429,195	1.5

The average supply since 1840 from domestic and foreign fleece has been as follows:

Total wool resources by decades—average per annum.

Period.	Product.	Imports.	Total supply.	Per capita supply.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*
1841–'50	46,000,000	13,976,459	59,976,959	3.0
1851–'60	66,000,000	23,010,629	89,010,629	3.3
1861–'70	150,000,000	50,161,113	200,161,113	5.4
1871–'80	186,275,000	64,091,664	250,366,664	5.7
1881–'89	281,222,222	87,429,195	368,651,417	6.5

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It may be a revelation to very many who write and talk of wool positively if not accurately, to know that the value of imports of woolen goods is less per head of population than ever before, having fallen since 1860 from $1.16 to 74 cents for the past decade, as follows:

Periods.	Aggregate.	Annual average.	Average value per head.
Ten years ending—			
1830	$82,900,615	$8,290,062	$0.75
1840	139,507,716	13,950,772	.94
1850	130,058,518	13,005,852	.65
1860	313,332,730	31,333,273	1.16
1870	330,465,214	33,046 521	.94
1880	395,376,936	39,537,694	.90
Nine years ending 1889	377,124,377	41,902,709	.74
Total	1,768,766,106	25,634,291	

The future is rose-colored for this industry, the sole cloud lowering over it being the carpet-wool deception and its nominal customs duty.

MORE GOATS WANTED.

The sheep have been separated from the goats by too wide a margin in this country. The Angoras have been imported to a limited extent, and their fleece is in demand as mohair, but they have not been extensively disseminated. There are rough surfaces and declivitous mountain slopes where they might thrive and prove preferable to sheep.

The demand for fleece, meat, and skins should make goat raising profitable. The flesh of the young animal is not only wholesome but palatable and nutritious, and the milk of the dairy strains of this race would be valuable and healthful food for infants, and might be kept in villages and suburbs of cities by thousands of families who do not keep a cow because of the expense or want of accomodation. The difficulty of getting the milk of "one cow" constantly, and the uncertainty of obtaining pure milk at all, in cities and towns, should make it possible, for sanitary and economic reasons, to give success to the experiment of providing goat's milk for children.

While our farmers may contine to despise "the day of small things," and decline to utilize goats for milk and cheese dairying, they may find it profitable to supply meat, fleece, or pelt. Many may not be aware of the fact that large importations of goat-skins are made, costing millions of dollars, while rough areas suitable to goat raising are unutilized in this country. The value ofsuch imports last year was $7,668,472. The receipts from Brazil were valued at $1,306,268; British East Indies, $1,132,050; Mexico, $930,713; the Argentine Republic, $642,605; France, $618,289; England, $559,800. Possibly a little of the existing depression might be eliminated by the distribution of $20,000,000 as receipts from goat products.

A letter has recently been received by the Secretary of Agriculture

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from Hon. Rufus Kellogg, of Green Bay, Wis., who writes from Rome, Italy, as follows, concerning certain breeds of goats and sheep:

I now desire to draw attention to the value of the goat of Malta, which I think would do much good in the mountain regions of the Carolinas, Tennessee, and Georgia. The goat of the Isle of Malta is peculiar in having a small head and in being hornless. In proportion to its size its bag is of great size. It gives 6 to 8 quarts of milk per day. In Tunis, Africa, the Maltese goat sells for $30, so highly is it esteemed. In these days of swill-milk and tuberculosis, goat's milk is regarded as much safer for children in cities than cow's milk.

Seal-skin capes seem to be supplanted by the Astrachan among American and English ladies. The Astrachan cape is said to be made from the pelts of the black sheep of the Crimea, Russia. An importation of this kind of sheep might be done by private enterprise if the Government of the United States should gather the information.

In Europe there are about half as many goats as there are sheep in this country. Spain, the source of most of the sheep of this country, including both Merinos and Mexicans, has almost four millions of goats. Little Greece has more than two and a half millions, almost as many as of sheep. Germany has more than Greece, Italy two millions, and Austria and Bulgaria each more than a million.

For the first time in the United States the present census schedules include goats among the animals of the farm.

COURSE OF AGRICULTURAL PRICES.

A statistical analysis of prices of farm products for twenty or thirty years does not warrant the idea that prices have suddenly declined, are much lower than last year, and are in unexampled depression. The tables of quotations of various products show great fluctuation, low rates in abundant years, high values in years of scarcity. The idea somewhat prevalent of a strong tendency to continuous decline is not sustained by the record. The downward tendency of prices of farm products, during thirty years, has been far less conspicuous than the decline of values of other products of human labor. This applies to farm products as a whole, rather than selected crops and exceptional years.

To specify principal crops, corn for ten years, average farm value has been about 40 cents per bushel. From 1870 to 1879, it was only two to three cents more, and in gold value no higher than for the recent decade. Even in the decade from 1860 it was no higher in gold. But fluctuations occur in each period, as in the last, when 63.6 and 28.3 cents represent the value of smallest and largest crops respectively. The prices of wheat have been higher for three years past than for the three preceding. From 1876 to 1880 they were much higher, from the unexampled demand, due to the crop failures of western Europe. The average of Chicago prices for three decades, expressed in currency, are nearly the same in gold for each, though there are annual fluctuations. The export price of cotton for the last eight months exceeds 10 cents per pound, and is slightly above the average of each of the four years preceding, while the average for ten years is only 10.5 cents per pound.

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Prices during the civil war were of course higher. The current rate depends entirely on the quantity marketed. Beeves are within two or three points of the prices of the last five years; the price of wool is advancing; fruits and vegetables command usual prices, higher if scarce and lower if abundant. The sellers get all they can for their share, as usual, and have facilities for combination to enforce their demands, which are not perceptibly greater than for several years past.

Thus we find nothing in the prices of farm products, either current quotations or their course and tendency in recent years, to warrant the assumed existence of any sudden, extraordinary or permanent fall in values of farm products. We find that some are higher than they have been and still improving; that the national crop, corn, which has been plethoric in quantity, and therefore low in value, is rising in price as stocks decline; that hereafter, as heretofore, demand will control price, and the grower who caters to a new and rising demand, grows some product of which there is no surfeit, will obtain a more generous remuneration for his labor. Foresight in this matter, a wise departure from the conservatism of routine, and aptitude for deftness and skill in new lines of effort, will bring better prices and better times.

THE PRICE OF CORN.

It is not difficult to account for the low price of corn. The product of the last year was 33 bushels for each inhabitant, and the price fell to 28.3 cents per bushel. The product of 1881 was 23.1 bushels per head, and the average farm price was 63.6 cents. The fluctuation in product from year to year, and the custom of keeping in granary the surplus of good years, tends to equalize prices. Could the real annual supply be exactly known, the price would follow the changes in available quantity with wonderful closeness. The changing element of foreign demand is another factor which modifies the actual remainder left for home consumption. Nevertheless there is very much of responsiveness in price to proportion available, as is seen in the following table, which gives the estimated production of the year, with the average farm price in December, without attempting to add the surplus of preceding crops to the current year, or to subtract the exports of the same year, to find the real quantity, which made the actual price:

Years.	Population.*	Corn crop.	Bushels per capita.	Price per bushel.
		Bushels.		*Cents.*
1880	50,155,783	1,717,434,543	34.2	39.6
1881	51,728,018	1,194,916,000	23.1	63.6
1882	53,448,114	1,617,025,100	30.3	48.4
1883	55,013,502	1,551,066,895	28.2	42.4
1884	56,522,347	1,795,528,000	31.8	35.7
1885	57,935,095	1,936,176,000	33.4	32.8
1886	59,312,130	1,665,441,000	28.1	36.6
1887	60,860,858	1,456,161,000	23.9	44.4
1888	62,512,404	1,987,790,000	31.8	34.1
1889	64,082,054	2,112,892,000	33.0	28.3

* The population is estimated except for 1880.

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The largest supply was in 1880, 1885, and 1889. In the former year the largest exportation ever known in corn and corn-meal and in pork products (to supply an alarming deficiency in western Europe) advanced the price heavily. In the latter two the values were 32.8 and 28.3, the lowest of the list, yet not equally depressed, for one reason because of the large production of oats in 1888 and 1889, which is a crop that supplements corn and influences its price.

Going to the other extreme, that of the highest price, 63.6 cents in 1881, the smallest crop of the period is found, about half that of last year in absolute quantity, but seven-tenths in proportion to population. The supply per head was lowest at this time, and was apparently but little higher in 1887, when the price was only 34.4 cents, but really the quantity for home consumption was much greater, because the foreign exports of corn and pork products were so much reduced, leaving a larger supply for home use. Could the exports of grain and secondary products be eliminated from this supply per head, and the remainder of each year be incorporated with the next crop, the relation between quantity and price would be still more striking, leaving little allowance to be made for other causes affecting prices. It is with corn as with wheat, prices have been ruined by keeping up the relative supply while the exports have fallen off. For five years the supply per head has been at least half a bushel larger than for the previous five years, while the proportion exported as grain and pork and lard has been less. A continuous oversupply, though the excess be small, suffices to glut and demoralize the market.

The average requirement, while exceedingly flexible, because depending so much on the abundance of other feeding material, must be taken to be about 27 bushels to each unit of population. Perhaps the actual supply has been near 28 bushels, exclusive of exports. The average farm price for ten years has been 39.3 cents per bushel and for the preceding decade 42.6 cents.

Commercial prices in Chicago may be found on another page for the 1st of January in each year since 1860. Dividing into periods of ten years, and making a rough average of these January prices, a comparison can be made. The first period has an average of 56.3 cents per bushel, the second 43.6 cents, and the third 42.8 cents. The Chicago average for the last ten years is thus 3.5 cents less than the average farm price for the country, and the period ending in 1880 just one cent lower than the farm price for the same period. An analysis of these Chicago quotations shows that price depends on quantity. Thus in 1862 it was 23 cents; in 1865 it was 88 cents. In 1879, after several years of abundance, it was 29.8 cents, but in 1875, after a short crop, it was 66.3 cents. So in 1880, after the largest crop grown and one of the largest per head, the price was 29.3 cents, while in 1882, after a very short crop, the figure was 62.5 cents.

We can have corn at 30 cents or at 60 cents per bushel, if we can

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regulate the supply. Now it would not be advantageous to farmers, in the long run, to keep corn at 60 cents, but it would equalize general prices and advance the general prosperity to keep it in the neighborhood of 40, or about the average of the last twenty years. This can be done by the farmers themselves, not by meeting in convention and "establishing" prices, but by restricting the supply to 26 or 28 bushels for each inhabitant of the country exclusive of the quantity exported.

It is not asserted here that there are not other causes operative in modifying prices, but they are limited and obscure compared with the relative quantity of the supply.

The following table gives the average farm price of corn in the seven States having an annual surplus from 1876 to 1889, inclusive:

States.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Ohio	38	40	33	39	41	61	62	47	41	32	35	48	35	31
Indiana	34	34	27	34	40	60	48	41	34	29	32	45	31	27
Illinois	31	29	25	31	36	58	47	40	31	28	31	41	29	24
Iowa	25	25	16	24	26	44	38	32	23	24	30	35	24	19
Missouri	28	27	26	25	36	65	39	35	26	25	31	37	30	23
Kansas	24	21	19	27	29	58	37	26	22	24	27	37	26	18
Nebraska	27	18	16	21	25	39	33	24	18	19	20	30	22	17
United States.	37	35.8	31.8	37.5	39.6	63.6	48.4	42.4	35.7	32.8	36.6	44.4	34.1	28.3

The difference in price between 1876 and 1889 is just 7 cents per bushel in each of the States east of the Mississippi, 6 cents in Iowa and in Kansas, 5 in Missouri, and 10 in Nebraska. In the latter State the average was higher than in Iowa in 1876, because of the influence of large local demand from new settlers, while in 1889 it was the lowest of all the averages from the extraordinary volume of production.

WHEAT PRICES.

The farm price of wheat has exceeded a dollar per bushel only one year in the past decade, and that was in 1881, the year of low yield so well remembered by all our farmers. A sharp fall occurred in 1884, a year of large production in this country, in Europe, and in India. In six years, from 1884, low prices have prevailed except in 1888, in which the product dropped heavily. Relatively the December value of the present crop was higher than that of 1887 and 5.3 cents higher than that of 1884. The present quotations for wheat are nearly up to the highest records of the past six years. There is nothing very depressing in current wheat values. The gradual reduction of stocks of old wheat, visible and invisible, promises continuance of higher prices. Prospects of larger products, good yields in other countries, in 1890 would tend to hold at present rates or reduce somewhat the quotations of the future. Thus is the wheat-grower's profit dependent on the friendly alliance of rust, blight, and insect depredations in other fields.

The States this side of the Rocky Mountains which cut a figure in the commercial distribution of wheat are found in the following table of average farm prices on the 1st of December of each year. The time

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includes the period of crop failure in Western Europe from 1876 to 1879, inclusive, which is responsible for the heavy exportation and high prices of this period. The high price in 1881 was due to a crop "failure" in this country. This period was the same in which our wheat acreage was so greatly enlarged. Since 1884 prices have been comparatively uniform, not to say uniformly low. The cases controlling these prices are as plainly visible as the bright rays of the morning sun, and the local differences indicated in the table are equally visible. Even the low ebb of last year's averages for Kansas and Nebraska is explained by abundance of home supply, distance from market, lack of facilities for handling and sale of surplus, and comparative lack of high favor for milling purposes, which operates so generally in Dakota and Minnesota.

The following table affords opportunity for study of local prices and their changes:

Average farm price of wheat for the years 1876 *to* 1889.

States.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts*
Ohio	114	124	86	120	102	129	95	99	75	91	74	75	97	76
Michigan	116	122	85	117	97	125	90	96	74	84	73	74	98	74
Indiana	102	113	81	117	99	127	90	95	67	86	70	72	94	71
Illinois	93	104	75	107	95	122	86	92	63	81	69	70	93	70
Wisconsin	101	93	67	104	100	119	90	88	60	76	68	64	96	70
Minnesota	90	91	51	94	87	106	82	80	50	70	61	59	92	71
Iowa	90	87	50	92	82	106	70	80	55	67	60	61	85	63
Missouri	89	100	67	101	89	119	85	88	62	77	63	62	88	64
Kansas	86	82	59	89	70	105	67	78	45	65	58	61	88	55
Nebraska	73	83	49	84	73	97	67	70	42	57	47	53	83	5?
Dakota	.....	.....	.....	.....	.....	.....	80	72	46	63	52	52	91	60
United States.	103.7	108.2	77.7	110.8	95.1	119.3	88.2	91	64.5	77.1	68.7	68.1	92.6	69.8

A record of Chicago Board of Trade prices on the 1st of January, which are given on page 292, since 1860, shows that the lowest price in thirty years was in 1862, when the quotation was 76.5 cents. The premium on gold made abnormal currency values for a dozen years and more, and caused a difference in price more apparent than real. The average of these January prices, by decades, is 128.6 cents per bushel in the first, 110.5 in the second, and 90.7 cents in the third. The difference in gold values is slight between these decade averages. Still there are annual fluctuations, caused by fluctuating supply of the world, in which our surplus exercises a large, if not controlling, influence. For instance, since 1880 the range of quotations has been from 126.8 cents in 1882, to 75 cents in 1885. Only three years sufficed to make the change from the highest to the lowest. So the lowest 1st of January record in ten years was not in 1890, when the price was 78 cents, but five years ago. Last January's price was a little higher than that of 1885, but 22 cents lower than in 1889, and the only reason that dollar wheat was then marketed was the fact of a poor crop, a little better than that of 1881, which sent the January price (1882) to 126.8 cents.

If wheat growers should insist on growing 600,000,000 bushels, and at the same time demand a dollar per bushel, under existing conditions

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elsewhere, no exercise of power by the Government could possibly guaranty such a market price, or prevent its reaching a lower depth than it has hitherto reached.

CHICAGO PRICES OF CEREALS.

The following table gives the Chicago prices of cereals from 1861 to 1890, inclusive, as reported by the board of trade on or about the 1st of January of each year:

[Prices given in cents per bushel.]

Years.	Corn.	Wheat.	Oats.	Rye.	Barley.
1861	28 to 28½	82 to 83	17 to 17⅛	45½ to 46	38 to 43
1862	23	76 77	18	32	35
1863	42 42¾	115	43 45	60	85
1864	47⅛ 48	126	66 66½	102½	121 122
1865	88	176	64¾ 65⅛	112	125 135
1866	45 46	122½ 131	24½ 26	49 55	.....
1867	74¾ 75½	193 200	41 42½	.....	.....
1868	86 86½	193 198	55 56½	.....	.....
1869	56	114 115½	45½ 47	114 119	162 168
1870	69 72	77¾ 77⅞	39½ 40	.....	.....
1871	43½ 44	109 111	39 39⅝	75 76	70 78
1872	40½ 40⅝	120½ 121⅝	31⅝ 32⅛	63½ 67½	60½ 63½
1873	30⅝ 31	119½ 125¾	24½ 24⅝	66 68	64½ 65
1874	53¼ 53½	117¾ 118	38⅛ 38½	76½ 78	138 145
1875	66 66½	90½ 90⅝	52⅝ 53	95 98	123 128
1876	43 45	95 96⅜	29⅞ 30½	66 67	78 80½
1677	43¾ 44⅜	124⅜ 126¼	33⅜ 34⅛	72 72½	64 67⅛
1878	42⅜ 43½	107⅞ 109⅜	24½ 24⅞	56 56½	57½ 58
1879	29½ 30	81⅛ 83	19½ 19⅝	43 43½	95 97½
1880	39¾ 40⅜	130 132½	35	80¾ 80⅞	82 85
1881	36 37⅛	95⅝ 98⅛	30½ 31½	85 88	112 115
1882	60⅞ 63⅛	125⅝ 127⅝	43⅝ 45	95½ 96	105 108
1883	49⅝ 54½	93⅛ 96	35 35⅜	57 58	85
1884	54⅛ 57⅞	93⅜ 95⅛	32⅛ 33⅞	58½ 59	61 62
1885	34½ 34⅞	72⅜ 78½	25⅛ 25⅜	53	61
1886	36⅛ 36⅜	84⅜ 85	28	58½ 59	65 66
1887	36½ 37⅜	78 80⅛	26½ 26⅞	53	52 53
1888	48⅜ 49½	77 77⅜	31⅛	62	83
1889	33⅜ 33⅝	90½ 101	25⅞	50	.....
1890	29¾ 29⅛	77⅜ 78½	20⅛ 20⅜	44½	.....

The following record of California prices of wheat (given for centals, but reduced to bushels of 60 pounds) was made by Albert Montpelier, manager of the Grangers' Bank, San Francisco:

Years.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
1877–'78	136	134	139	140	138	142	134	122	117	119	115	101
1878–'79	100	102	104	103	102	102	101	101	99	97	98	99
1879–'80	101	101	105	118	122	122	117	115	116	102	95	93
1880–'81	90	87	80	87	91	87	82	79	80	82	83	83
1881–'82	82	92	100	101	103	99	99	98	98	97	100	101
1882–'83	102	101	99	99	100	101	108	114	116	106	105	98
1883–'84	95	101	102	101	109	110	105	97	95	92	91	87
1884–'85	83	79	72	75	75	76	78	77	77	84	86	84
1885–'86	85	83	85	89	84	83	81	77	78	81	79	77
1886–'87	75	78	80	81	83	89	94	90	91	103	107	119
1887–'88	113	.....	75	77	80	83	82	80	79	79	84	79
1888–'89	81	89	91	96	95	87	84	85	83	83	79	.....

The very high prices of 1877, 36 cents higher in July than in July of 1878, followed a crop a fraction above 10 bushels per acre for the whole country. It is seen that the averages for 1888–'89 were as high as those of the period 1886–'87 and 1887–'88 and higher than in 1885–'86.

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PRICES OF MEATS.

The March report gave a statement of average Chicago prices of beeves for fifteen years, showing increase to 1884, and lower prices since, though the difference between present rates and those of three or four years ago is very slight. The present tendency is towards higher prices.

The following statement, divided into two periods, the first including quotations from 1871 to 1879, inclusive, the second from 1880 to 1889, inclusive, makes the averages of the two periods nearly the same, the latter a trifle less than the former, except as to live hogs. No true average can be made without having the quantities and prices of all sales. These quotations are for January and July, and can not therefore be assumed to represent the true average. Still it is approximate, and may be very close to the exact average. Averaging these figures, we have the following comparison:

Products.	1871–'79.		1880–'89.	
	Jan.	July.	Jan.	July.
Mess-pork.....barrels....	$14.63	$14.51	$13.32	$14.03
Lard.....pounds....	.09¼	.095	.08	.08
Hams.....do.....	.092	.10¼	.091	.103
Bacon, short clear.....do.....	.076	.082	.071	.078
Live hogs.....	5.20	4.82	5.19	5.39

Years.	Mess-pork per barrel.				Lard, per 100 pounds (steam rendered).				Hams, sweet-pickled, per pound.			
	January.		July.		January.		July.		January.		July.	
					Cents.		Cents.		Cents.		Cents.	
1871...	$18.37	to $19.00	$14.00	to $15.00	11.12½	to 11.25	10.00	to 10.25	11½	to 12	10½	to 12
1872...	13.00	13.40	12.50	13.00	9.00	8.75	8.70	11.00	8½	9½	9½	12
1873...	11.35	11.50	14.25	15.00	7.00	7.25	8.00	8.12½	7¾	8¾	10	12½
1874...	13.75	14.35	17.50	18.00	8.20	8.50	11.00	11.25	8½	10	9¾	11½
1875...	18.75	19.00	19.40	19.70	13.15	13.60	13.10	13.40	10⅝	11½	10½	11½
1876...	19.10	19.30	19.10	19.55	12.17½	12.30	11.05	11.30	10⅝	11½	12	12¾
1877...	17.20	17.82½	12.90	13.25	11.17½	11.55	8.60	8.90	9⅜	10½	7½	9⅛
1878...	11.25	11.45	9.12½	9.37½	7.37½	7.50	6.70	6.85	6½	7⅛	9	9⅜
1879...	7.80	7.50	9.80	9.87½	5.40	5.47½	6.05	6.12½	5	6	7⅛	9
1880...	13.25	13.45	11.85	12.62½	7.52½	7.55	6.50	6.80	8	8½	8½	8¾
1881...	11.25	12.40	.....	.....	8.37½	8.62½	11.17½	11.20	7⅜	8	9	9½
1882...	.....	16.25	.....	22.05	11.00	11.02½	11.75	12.30	9¾	10½	12½	13
1883...	16.75	17.10	15.05	16.10	10.12½	10.35	8.90	9.30	10	10⅛	10¾	11½
1884...	14.00	14.55	16.00	17.50	8.75	8.90	7.10	7.42½	9¾	10⅛	11	12
1885...	11.15	11.50	10.00	10.20	6.05	6.75	6.52½	6.60	8⅜	8¾	8	8¼
1886...	9.15	10.00	8.75	10.20	5.85	6.05	6.30	6.60	7⅜	8	10	10½
1887...	11.50	12.25	14.00	16.00	6.30	6.57½	6.37	6.60	9¼	9½	9⅞	10⅜
1888...	14.87	15.37	13.40	13.60	7.60	7.87½	7.95	8.25	9¾	9⅞	10⅜	10⅞
1889...	12.62½	12.75	11.50	11.60	*7.35	7.37½		*6.35	9¼	9⅜	10¼	10⅜
1890...	9.25	.....	.....	.....	5.80	5.82½	.....	.....	8	8½		

*Prime contract.

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Years.	Short clear middles, per pound or per 100 pounds.		Live hogs, heavy, per 100 pounds.	
	January.	July.	January.	July.
	Cents.	*Cents.*		
1870			$8.00 to 10.30	$8.00 to 9.00
1871	9⅜	8 to 8½	5.80 6.25	3.70 4.20
1872	6½ to 6⅞		4.00 4.80	3.65 4.10
1873	6⅞ 6½	9⅛ 9⅜	3.60 4.00	4.00 4.70
1874	7⅜ 7⅛	9¼ 9⅜	4.00 5.60	5.40 6.25
1875	*10	*11⅜ 12	6.10 7.45	6.00 7.30
1876	10 10¼	9⅝ 10	6.75 7.50	6.00 6.30
1877	9 9⅛	6¾	6.15 7.10	4.70 5.00
1878	5⅛ 5¼	5⅜ 5½	4.00 4.35	3.70 4.25
1879	$3.52½ 3.60	$4.82½ 4.90	2.50 3.00	3.55 3.95
1880	6.60 6.65	6.80 7.00	4.30 4.80	4.10 4.50
1881	6.70 6.90	8.60 8.70	4.75 5.15	5.85 6.30
1882	8.70 8.95	12.70 12.85	6.35 6.75	8.10 8.75
1883	8.85 8.95	8.00 8.25	6.20 6.70	5.80 6.30
1884	7.15 7.60	7.65 8.10	5.80 6.30	5.60 5.75
1885	5.80 6.00	5.50 5.60	4.25 4.55	3.50 4.10
1886	4.90 5.10	5.95 6.30	3.35 4.20	4.20 4.85
1887	6.20 6.40	7.75 8.00	4.05 5.00	4.80 5.30
1888	7.90 8.25	7.55 7.85	5.20 6.00	5.55 5.95
1889	6.75 6.87½	5.87½ 6.00	4.90 5.20	4.25 4.40
1890	4.65 4.70		3.50 3.75	

* Loose.

It will be observed that the fluctuations in value of pork products follow quite closely the quotations for maize. For instance, in 1882, the year following a "failure" of the corn crop, mess pork was worth $16.25 in January and $22.05 in July, while in January of this year, with a heavy crop of corn, the low rate of $9.25 is quoted. In January, 1886, with a supply per head about the same as at present, the rate was $9.15. There are many other interesting deductions obtainable from these figures, for which there is no present space.

FARMERS' MILLING COMPANIES.

"Live and let live" is a good motto; but when millers, in their effort to live at their trade, are too greedy to afford a living chance to the growers of grain, it is a measure of self-protection in the farmers to do their own milling. Within twenty years there is scarcely a community west of the Missouri and east of the Pacific coast that has not been obliged in the first years of settlement to obtain a part of its breadstuffs from the older States. As wheat growing increased, mills have been erected, and competition between domestic grain and the wheat of other regions became active, reducing prices, which are always high when commodities are brought from abroad, passing through the hands of many forwarders and dealers.

A community of farmers is always in slavery when in the hands of commercial purveyors of products grown far away. Fifty to 100 per cent. merchants' profits in the South of former times attest this fact. The long line of elevators, cars, steam-ships, forwarders, brokers, and speculators between Fargo and Liverpool, together with the low price of wheat in Dakota, illustrate it. This instinct of plunder, in the name

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of commerce, foiled in its opportunity when the wheat growers and miner are side by side, combines milling and trade, and monopolizes the business, refuses to buy grain of growers except at depressed and unremunerative prices, leaving the home supply in the stacks or bins of the farmers until they are compelled to sell at any price offered.

This is the complaint of wheat growers of Colorado, and the reason for establishment of co-operative mills. The following extract of a letter from Mr. J. K. Sweeny, manager of the Longmont Farmers' Milling and Elevator Company, of Longmont, Colorado, tells the story of the rise and progress of one of these mills:

During 1884-'85 the Colorado milling association was formed, better known as the "millers' combination." All the mills in the State of any importance joined, their object being to make milling as profitable as possible, regardless of the price of wheat, but kept the price just above the Eastern prices, minus the railroad freight to the East. In consequence, wheat was at 40 to 50 cents per bushel much of the time, where it should have been the Eastern price with the freight from the East to Colorado added, as we had none for export. Prominent among the farmers who realized the situation of affairs was John W. Goss, of Hygiene, who, after agitating the matter, called a meeting of the farmers and succeeded in getting the support of enough to form our present company, which has been enlarged every year until the most of our $75,000 capital stock is taken and held by the farmers.

Our company is an organization very similar to the other corporations, having a constitution and by-laws, being chartered and authorized by the State.

In our business transactions stockholders have no preference over others in the buying and selling of our products. Our aim is to pay just as much as possible for their grain, make a first-class flour as economically as possible, and sell it for all the market will command, together with the offal, and arrange the prices to cover all necessary expenses and allow for 10 per cent. on the stock issued.

As a business venture, when the whole situation is considered, we are a grand success. By the aid of the bank of Longmont we have been able to meet all obligations promptly, of a financial nature. We paid 10 per cent. stock dividend the first year and charged it to earnings of mill; 1888 and 1889 we paid 10 per cent. cash dividend each year, and had a reserve fund of enough to put our mill in thorough repair this winter.

For the results of our enterprise to the wheat-grower, will quote you prices from our books. Our mill was started Christmas, 1886. Wheat was then 60 cents per bushel. The combination, having bought large quantities at this price during the fall, had an advantage we could not overcome. Their scheme was to raise the price in our vicinity and keep flour low. Their outspoken intention was to break us at once, but, our flour being first-class, the trade readily paid us 10 to 15 cents per 100 pounds more than others. Having earned a good name, we can still command the highest prices, which has been the secret of our success.

From January, 1887, wheat steadily advanced from 60 to 90 cents in June and July. The average price paid for wheat, for year ending June, 1888, was 82½ cents; for the year 1889, 97 cents. From June, 1889, to present time, about 85 cents per bushel; the present price is 80 cents. At no time since the mill was built has the price of wheat been below what it could be laid down in our market from either Utah, Oregon, and Washington on the west or Nebraska and Kansas on the east, and nearly all the past season our price has been above Kansas and Nebraska laid down in our market, by 10 cents per bushel for their best wheat, on account of the railroad companies cutting freight rates, which, while it may give temporary relief to the farmers of Kansas and Nebraska, demoralized our markets to the same extent, more than we had calculated upon when purchasing our fall supply from the thrashers.

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Consequently we, as well as the Colorado Milling Association, have been running at an actual loss for four months past, and possibly may not make our regular 10 per cent. this year just closing, but not one sensible stockholder has any complaint to enter, all being well satisfied that the mill has more than paid on the investment by sustaining prices of wheat since December, 1889, 10 cents above the Denver market as well as the Greeley and Eaton market. Our plan has been, when wheat has advanced to more than we can possibly pay, to let the combine have it in Longmont, and put our buyers into Loveland, Collins, Greeley, and Eaton, make a good deal of noise but buy as little wheat as possible, by which means we have always succeeded in advancing the price in these points nearly or quite up to the prices at Longmont, and thus gain two objects. First and principal, the farmer is benefited; second, we take from the combination the lever of cheap wheat, against our higher priced.

Our operations have failed to justify the expectations of the founders, to this extent: They calculated the mill would pay for itself in about three years, should the proportionate price of flour and wheat prevailing at that time continue to prevail. Since our organization, Fort Collins farmers have built a mill. Berthoud, Montrose, Monte Vista, Lamar, have either completed or are building co-operative mills, also Rocky Ford, and a large one is very likely to be built in Denver this summer and fall, although the present capacity of the mills is many times greater than the consumption or product of the State.

The J. M. Clark Commission Company, of Denver, is a farmers' undertaking to put their general produce on the market at the smallest possible cost, and the only one we know of in the State.

Before closing this, will say that in my opinion one of the greatest single causes of the depression of the grain market is the farmers' habit of selling his whole crop just as soon as he can get it thrashed, thus crowding the market and depressing it. A grain-dealer is not likely to buy at a very high price, and take all the chances of loss or gain himself for the remainder of the year.

A practical disruption of the monopoly, an increase of 50 per cent. in the value of domestic wheat, and a fair business profit on the enterprise, are results worthy of serious consideration in other sections which complain of depression in agriculture.

EUROPEAN CROP REPORT FOR JUNE.

GREAT BRITAIN.

The general prospect of the crops are admitted to be very fine. The last few days of the month have been cold, and to-day there is a heavy rain, which was needed. Wheat is backward, but is credited with extraordinary vitality, and there is a general expectation that June will substantiate the promises of May and hasten the growth.

FRANCE.

The French reports are couched in the most enthusiastic terms. The rains which have been threatening some damage in the south have ceased, and over the great wheat areas the weather has been perfect. During the last few days, in the center and west, there has been a fall in temperature, and some local harm has resulted from storms, but the general prospects have seldom been better.

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GERMANY.

The growing crops have a most promising appearance in every direction, and if reports from Hamburg and Berlin are to be credited, seldom has so fine a May been known. There has been some slight variation in temperature during the month, and thunder-storms have not been infrequent, but everything seems to have worked for good regarding the crops.

AUSTRIA-HUNGARY.

The general prospects of the dual Empire have not been impaired during the month. The Vienna and Budapest ministries of agriculture give a great many local details which need not be repeated here. In brief, the prospect is fair to excellent, the main question unanswered being as to the extent and damage done by rust. An exceptionably good harvest is anticipated in the north and south of Austria for wheat, rye, and barley, and in Hungary the official report for the week ending the 22d of May was as follows:

	Jochs.	Below average.	Average.	Above average.
Wheat area	5,197,346	0.5	34.1	65.4
Rye area	2,216,891	2.4	55.9	41.7
Barley area	1,826,578	6.2	60.6	33.2
Oats area	1,831,029	11.8	67.7	20.5

PORTUGAL.

Herewith is reproduced a statement on the crops of Portugal taken from late British consular reports:

Oats are grown in Portugal, the average yield being about 35 bushels (13 hectoliters) per hectare (2½ acres), the total production of the country being 550,209 bushels (200,000 hectoliters).

Rice is cultivated in the marshy land in the neighborhood of Lisbon, etc., the average yield being 165 to 440 bushels per hectare (2½ acres) (60 to 160 hectoliters).

Rye is grown principally in the mountainous districts in the north, the total production amounting to 6,437,340 bushels (2,340,000 hectoliters).

Of barley the average produce is 33 bushels per hectare (2½ acres) (12 hectoliters), the total production of the country amounting to 2,200,800 bushels (800,000 hectoliters).

Wheat, of which there are 29 varieties, the average yield per hectare (2½ acres) being 13 hectoliters, and the total amount 8,253,000 bushels (3,000,000 hectoliters).

Maize is principally cultivated in the Minho and Beeras districts; there are twenty-three varieties, the average yield being 55 bushels per hectare (20 hectoliters).

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Average produce of crop.

Crops and produce.	French measures.	English measures.
Wheat	3,000,000 hectoliters.	8,253,000 bushels.
Millet or maize	7,150,000 hectoliters.	19,669,650 bushels.
Rye	2,340,000 hectoliters.	6,437,340 bushels.
Barley and oats	1,000,000 hectoliters.	2,751,000 bushels.
Potatoes	3,000,000 hectoliters.	8,253,000 bushels.
Rice	6,500,000 kilograms.	14,326,000 pounds.
Linseed	170,000 hectoliters.	467,670 bushels.
Olive oil	250,000 hectoliters.	5,550,000 gallons.

SPAIN.

The general reports from Spain state that the crop appearance is most satisfactory. The following is a published statement of the wheat trade of Spain which has just appeared:

Although the harvest of 1889 was a good one compared with all previous years, still, on account of the large stocks remaining in the hands of dealers in home and foreign wheats, the farmers had great difficulty in selling at remunerative prices. The importation of foreign grain was much less in 1889 than it was in 1888 for two reasons: (1) because of the much improved collection of Spanish wheat; (2) because the prices of grain in Russia, the Black Sea, and America were much higher than they were in previous years, and freights, too, had risen considerably.

In the year 1888 the best foreign wheats were sold at from 16 to 18¼ francs per 100 kilograms (27*s.* 10*d.* to 32*s.* 2*d.* per 480 pounds) f. o. b. in Barcelona, whereas in 1889 the prices for same wheat reached 21 francs (36*s.* 6*d.*). Russia is the country that exports most wheat to this country, the grain being required to manufacture some of the strong classes of flour consumed in Spain. In 1888 Russia sent to Spain 168,000 tons of grain, and in 1889 she sent only 87,000 tons. The United States and Roumania usually send large quantities of grain to Spain, but for the last two years, on account of high prices that have ruled in America, very little has come from the first-named country. Indian wheat has a good demand here when the local harvests are bad, as the quality of Indian grain is very similar to that of Spanish.

ROUMANIA.

The previous excellent aspect of the crops has been somewhat jeopardized by the heavy rains, but later reports indicate that the damage is not as great as reported and that fine weather has set in.

RUSSIA.

The grain prospects have been steadily improving during the month. Both the official and non-official reports unite in marking the progress, especially since the late rains. There is no anticipation that the crop will equal the great yield of 1888 and 1887, but it will probably be much in excess of last year's poor yield.

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INDIAN WHEAT CROP, 1889–'90.

Consul General Bonham, of Calcutta, under date of May 6, furnishes the following statement of the wheat crops of India for the present year:

Area sown to wheat, about 26,000,000 acres. The total yield of this year's crop is estimated at about 261,400,000 bushels, the present market price of which in the principal ports of India is 60 to 75 cents per bushel. It is estimated that not more than one-sixth of the aggregate yield of this year will be for export.

Owing to the difficulties in securing reliable information from many of the native Indian farmers, agricultural statistics in this country are not regarded as entirely reliable; but if the foregoing is approximately correct, I do not think India is as formidable a competitor of the United States in wheat-growing as she appeared to be a few years ago.

In connection with this estimate an examination of the official statements of production and exportation during recent years is afforded by the following table:

Year.	Crop.	Exportation.	Year.	Crop.	Exportation.
	Bushels.	*Bushels.*		*Bushels.*	*Bushels.*
1884	251, 690, 880	29, 588, 311	1888	244, 411, 632	32, 801, 925
1885	209, 155, 554	39, 328, 658	1889	243 076, 549	*31, 408, 921
1886	258, 317, 632	41, 588, 250	1890	261, 400, 000	
1887	238, 585, 947	25, 271, 232			

*Eleven months only.

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TRANSPORTATION RATES.

FREIGHT RATES—RAILROAD COMPANIES.

CHANGES IN FREIGHT RATES.

Returns from several trunk lines, June 1, 1890, show quite a number changes in the rates upon agricultural products from Chicago to New York and points taking New York rates, as compared with the rates reported May 1. No change is reported in west-bound rates. The following statement shows the rates June 1 in comparison with those for May 1.

[In cents per 100 pounds.]

Articles.	Chicago to New York.		Chicago to Boston.	
	May 1.	June 1.	May 1.	June 1.
Packing-house products (except bulk meats) C. L	30	25	35	30
Hogs, C. L	30	25	30	25
Oats, C. L	35	20	30	25

The returns from the Chicago, Burlington and Quincy Railroad Company show quite a decrease in the rates upon dressed meats and live-stock from Missouri River points to Chicago and St. Louis, as shown in the following table:

CHICAGO, BURLINGTON AND QUINCY RAILROAD.

[In cents per 100 pounds.]

Articles.	To St. Louis from Atchison, Kansas City, St. Joseph.		To St. Louis from Omaha, Council Bluffs.		To Chicago from Atchison, Kansas City, St. Joseph.		To Chicago from Omaha, Council Bluffs.	
	May 1.	June 1.	May 1.	June 1.	May 1.	June 1.	May 1.	June 1.
Dressed beef, common or refrigerator cars, C. L	.....	.....	18½	13½	.....	.....	23½	18½
Dressed hogs, common or refrigerator cars, C. L	.....	.....	18½	13½	.....	.....	23½	18½
Cattle, C. L	9½	*9½	*16½	12½	12½	*12½	*25	21
Hogs, S. D. or D. D., C. L	21½	*13	*17½	17½	25	*22	*25	25
Sheep, S. D. or D. D., C. L	14½	*14½	*17½	14½	22	*22	*25	22

*Subject to the following rebate: "Taking effect April 22, 1890, rates on cattle, hogs, and sheep, carloads, from points west of Kansas City, St. Joseph, Atchison, or Leavenworth to Chicago and common points, will be reduced $7.35 per car, regardless of dimensions, and to Mississippi River and common points $4.80 per car.

"Shipments will be way-billed at established tariff rates, and reduction as above provided will be made by the receiving agent on the face of the way-bill.

"This reduction will not apply on shipments of horses or mules.

"In case of stock originating at points west of Kansas City, St. Joseph, etc., but rebilled at Missouri River, reduction as above provided will also apply from the proportion accruing east of Missouri River."

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CHANGES IN RATES VIA LAKES AND ERIE CANAL.

The rates via lakes, Chicago, and Buffalo, and via Erie Canal, Buffalo, to New York, were very steady throughout the month of May. The rates, May 1: Buffalo to New York, were, oats 2⅝ cents per bushel, corn and rye 3⅝ cents, and wheat 4 cents, which continued the same until May 29, when they fell to 2½, 3⅜, and 3¾, respectively. Lake rates, Chicago to Buffalo, were not quite as uniform, though only two changes occurred during the month. A table showing the daily rates of freight upon certain articles via the Lakes and Erie Canal is presented with this report.

TRANSATLANTIC RATES.

The returns from ocean steam-ship companies June 1 show a considerable decrease in rates of freight upon export products as compared with those reported May 1, with the exception of cotton, which is somewhat higher. Especially is this true of the rates from New York to Liverpool, as shown in the following table. The rates to other foreign ports will be found on the last page of this report.

Articles.	New York to Liverpool.			
	May 1.		June 1.	
Flour, in sacks.....per 2,240 pounds..	$2.40 to	$3.00	$1.80 to	$2.40
Bacon.....do....		3.60	3.00	3.60
Cheese.....do....	4.80	6.00	6.00	7.20
Beef.....per tierce..	.60	.72		.48
Pork.....per barrel..	.42	.48	.24	.36
Cotton.....per pound..		.00 5/16	.00⅝	.00¾
Measurement.....per ton (40 cubic feet)..	2.40	6.00	3.00	3.60

The following transportation companies report no important changes in their rates since last published: Pennsylvania Railroad Company (west bound); New York, Lake Erie, and Western Railroad (west bound); Delaware, Lackawana and Western Railroad (east and west bound); St. Paul and Duluth Railroad; Northern Pacific Railroad; Louisville and Nashville Railroad; Newport News and Mississippi Valley Company; Old Dominion Steam-ship Company; Norwich and New York Transportation Company; Portland Steam Packet Company; Winsor Line; St. Louis and Mississippi Valley Transportation Company; Merchants and Miners' Transportation Company.

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TRUNK LINE RATES.

[Rates in effect June 1, 1890, in cents per 100 pounds.]

Articles.	To New York from—							To Boston from—			
	East Saint Louis.	Chicago.	Indianapolis.	Cincinnati.	Detroit and Toledo.	Cleveland.	Erie.	East Saint Louis.	Chicago.	Indianapolis.	Cincinnati.
Agricultural implements:											
O. R. C. L.	35	30	28	26	23½	21½	18	40	35	33	31
N. O. S., K. D. flat, in bundles, L. C. L.	87	75	69½	65	58½	53	45	97	85	79½	75
Apples:											
O. R., P. P., C. L	35	30	28	26	23½	21½	18	40	35	33	31
O. R., P. P., L. C. L.	58	50	46½	43½	39	35½	30	63	55	51½	48½
Bacon, packed:											
C. L.	29	25	23	21½	19½	17½	15	34	30	28	26½
L. C. L.	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Beans, dried, N. O. S., in bags or barrels:											
C. L.	35	30	28	26	23½	21½	18	40	35	33	31
L. C. L.	40½	25	32½	30½	27½	25	21	45½	40	37½	35½
Beef:											
Dressed, refrigerator cars, C. L	50	45	.....	.....	35	32	27	.....	48	.....	.....
In barrels or tierces, C. L.	29	25	23	21½	19½	17½	15	34	30	28	26½
Butter, in wood	75½	65	60½	56½	50½	46	39	81½	71	66½	62½
Cheese, in boxes or casks	58	50	46½	43½	39	35½	30	63	55	51½	48½
Corn and oats, C. L. (minimum weight 24,000 pounds).	23	20	18½	17½	15½	14	12	28	25	23½	22½
Flour:											
C. L., 125 barrels and over	29	25	23	21½	19½	17½	15	34	30	28	26½
Less than 125 barrels	35	30	28	26	23½	21½	18	40	35	33	31
Fruit:											
Green, O. R., released, P. P., C. L	75½	65	60½	56½	50½	46	39	81½	71	66½	62½
Dried, N. O. S., in barrels or casks, C. L.	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Dried, N. O. S., in barrels or casks, L. C. L	58	50	46½	43½	39	35½	30	63	55	51½	48½
Grain:											
Except corn and oats, C. L. (24,000 pounds)	20	25	23	21½	19½	17½	15	34	30	28	26½
In bulk, less than 24,000 and more than 15,000 pounds	35	30	28	26	23½	21½	18	40	35	33	31
Hams, packed:											
C. L.	29	25	23	21½	19½	17½	15	34	30	28	26½
L. C. L.	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Hides:											
Dry, loose, or in packages, C. L. (minimum weight 20,000 pounds)	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Dry, pressed, in bales, L. C. L	87	75	69½	65	58½	53	45	97	85	79½	75
Green, in bundles, C. L	29	25	23	21½	19½	17½	15	34	30	28	26½
Hogs, dressed, refrigerator cars, C. L.	50	45	.....	.....	35	32	27	.....	48	.....	.....
Hops, in bales, L. C. L	75½	65	60½	56½	50½	46	39	81½	71	66½	62½
Lard:											
C. L	29	25	23	21½	19½	17½	15	34	30	28	26½
In barrels or boxes, L. C. L	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Lumber, N. O. S.:											
C. L	29	25	23	21½	19½	17½	15	34	30	28	26½
L. C. L	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Pork, pickled, in barrels:											
C. L	29	25	23	21½	19½	17½	15	34	30	28	26½
L. C. L	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Potatoes, O. R., P. P.:											
C. L	35	30	28	26	23½	21½	18	40	35	33	31
L. C. L	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Salt:											
C. L	29	25	23	21½	19½	17½	15	34	30	28	26½
In boxes or sacks, L. C. L	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Sheep, dressed, refrigerator cars, C. L.	50	45	.....	.....	35	32	27	.....	48	.....	.....
Tobacco, unmanufactured, in hogsheads or cases	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Wool, in bales or sacks:											
C. L. (minimum weight 10,000 pounds)	75½	65	60½	56½	50½	46	39	81½	71	66½	62½
L. C. L	87	75	69½	65	58½	53	45	97	85	79½	75
Cattle, C. L	31	26	24	22½	20½	18½	15½	.....	.....	.....	.....
Sheep, C. L	25	30	28	26	23½	21½	18	.....	.....	.....	.....
Hogs, live, C. L	30	25	23	21½	19½	17½	15	.....	.....	.....	.....
Horses and mules, C. L	65	60	56	52	47	42½	36	.....	.....	.....	.....

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified. P. P.—Prepaid.

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MOBILE AND OHIO RAILROAD COMPANY.

[Rates in effect June 1, 1890.]

Articles.	From St. Louis and East St. Louis to—						
	Hickman, Ky.	Memphis, Tenn.	Huntington, Miss.	Greenville, Miss.	Rosedale, Miss.	Vicksburg, Miss.; Baton Rouge, La.	New Orleans, La.; Mobile, Ala.
Agricultural implements, C. L. per 100 lbs.	$0.15	$0.15	$0.25	$0.25	$0.25	$0.25	$0.25
Apples, green or dried, C. L. do	.15	.15	.25	.25	.25	.25	25
Bacon, hams, and shoulders, packed, C. L. per 100 lbs	.18	.16	.25	.25	.25	.25	.25
Beans and peas:							
In barrels or sacks, C. L. per 100 lbs.	.20	.30	.40	.40	.40	.40	.40
In boxes, C. L. do	.35	.50	.75	.75	.75	.75	.75
Beef, pickled, in barrels, C. L. do	.18	.16	.25	.25	.25	.25	.25
Bulk meat, C. L. do	.18	.16	.28	.28	.28	.28	.28
Butter, in refrigerator cars do	.35	.50	.75	.75	.75	.75	.75
Cheese, in refrigerator cars do	.30	.45	.65	.65	.65	.65	.65
Cotton, in bales:							
Compressed per bale	.....	.....	.....	.....	.....	.....	*1.25
Uncompressed do	.....	.....	.....	.....	.....	.....	*1.75
Cotton-seed meal and oil cake per 100 lbs.	.12	.12	.20	.20	.20	.20	.20
Cotton-seed oil (refined), C. L., for foreign shipment per 100 lbs.	.....	.....	.....	.....	.....	.....	.20
Fertilizers, C. L. per ton	.....	2.10	3.05	3.05	3.05	3.05	3.05
Flour, grits, and hominy, in barrels per bbl.	.30	.30	.45	.45	.45	.45	.45
Fruit, green or dried, straight or mixed, car-loads per 100 lbs.	.15	.15	.25	.25	.25	.25	.25
Grain and bran, C. L. do	.12	.12	.20	.20	.20	.20	.20
Hides:							
Dry, loose, or in bundles do	.40	.65	.90	.90	.90	.90	.90
Dry, in bales do	.25	.35	.50	.50	.50	.50	.50
Green, C. L. do	.18	.16	.28	.28	.28	.28	.23
Hops:							
Pressed, in bales do	.30	.45	.65	.65	.65	.65	.65
In boxes do	.40	.65	.90	.90	.90	.90	.90
Lard, in tierces, barrels, kegs, or boxes, straight or mixed, car-loads per 100 lbs.	.18	.16	.25	.25	.25	.25	.25
Lumber:							
Dressed, or common, C. L. do	.15	.15	.25	.25	.25	.25	.25
L. C. L. do	.25	.35	.50	.50	.50	.50	.50
Meal:							
Corn, in barrels, any quantity per bbl.	.28	.28	.43	.43	.43	.43	.43
Oat, in barrels, C. L. do	.30	.30	.45	.45	.45	.45	.45
Meats, fresh:							
In refrigerator cars, C. L. per 100 lbs.	.....	.25	.45	.45	.45	.45	.45
Prepaid, released, L. C. L. do	.30	.45	.65	.65	.65	.65	.65
Pork, packed, C. L. do	.18	.16	.25	.25	.25	.25	.25
Potatoes, straight or mixed, car-loads do	.15	.15	.25	.25	.25	.25	.25
Salt:							
C. L. per bbl.	.....	.23	.55	.55	.55	.55	.55
In sacks, L. C. L. per 100 lbs.	.18	.25	.35	.35	.35	.35	.35
Seeds:							
Garden, C. L. do	.20	.30	.40	.40	.40	.40	.40
Grass and clover, C. L. do	.18	.25	.35	.35	.35	.35	.35
Tobacco, unmanufactured do	.....	.20	.27	.27	.27	.27	.27
Vegetables, green or dried, straight or mixed, car-loads per 100 lbs.	.15	.15	.25	.25	.25	.25	.25
Wool:							
In bags do	.40	.65	.90	.90	.90	.90	.90
N. O. S., pressed, in bales do	.30	.45	.65	.65	.65*	.65	.65
Cattle, C. L. per car	.....	40.00	85.00	85.00	85.00	85.00	85.00
Sheep, C. L. do	.....	40.00	85.00	85.00	85.00	85.00	85.00
Hogs, C. L. do	.....	40.00	85.00	85.00	85.00	85.00	85.00
Horses and mules, C. L. do	40.00	50.00	94.00	94.00	88.00	100.00	100.00
Poultry, live, in coops, C. L. do	.....	50.00	94.00	94.00	88.00	100.00	100.00

* To New Orleans only.

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified.

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ILLINOIS CENTRAL RAILROAD.

[Rates in effect June 1, 1890.]

Articles.	From New Orleans to—	
	East St. Louis.	Chicago.
Agricultural implements, C. L. (minimum weight 20,000 pounds) released, per 100 pounds	$0.36	$0.40
Apples, O. R., released ..... per 100 lbs..	.47	.53
Apples and peaches, dried ..... do....	.51	.55
Beans, in barrels and sacks ..... do....	.41	.46
Beef and pork, salted, in barrels, actual weight ..... do....	.26	.31
Butter, in wood or tin, released ..... do....	.68	.73
Canned goods:		
C. L ..... do....	.32	.38
L. C. L ..... do....	.37	.55
Cheese ..... do....	.51	.56
Cotton:		
Uncompressed ..... do	.42	.60
Compressed, shipper's expense ..... do....	.30	.45
Cotton-seed cake, C. L ..... do....	.20	.25
Cotton-seed meal, C. L ..... do....	.19	.25
Cotton-seed oil, crude, N. O. S., C. L ..... do....	.19	.25
Fertilizers:		
C. L ..... do....	.20	.25
L. C. L ..... do....	.24	.30
Fruit:		
Dried, N. O. S ..... do....	.68	.73
Oranges, lemons, and limes, C. L., 24,000 pounds and over ..... do....	.40	.40
Oranges, lemons, and limes, L. C. L., packed ..... do....	.43	.50
Bananas and pineapples, C. L., 20,000 pounds and over ..... do....	.43	.46
Bananas and pineapples, L. C. L., packed ..... do....	.60	.[illegible]
Cocoanuts, C. L., 22,000 pounds and over ..... do....	.28	.[illegible]
Cocoanuts, L. C. L., packed ..... do....	.31	.[illegible]
Hides:		
Dry, in bales ..... do....	.51	.[illegible]
Dry, in bales, compressed ..... do....	.41	.46
Green ..... do....	.41	.46
Salted ..... do....	.22	.40
Hops, in iron casks ..... do....	.51	.55
Lard, in tin cans, not boxed ..... do....	.41	.46
Lumber:		
In box cars, C. L ..... do....	.24	.28
In flat cars, C. L ..... do....	.24	.28
Meats, fresh, prepaid, L. C. L., released ..... do....	.68	.73
Potatoes:		
C. L ..... do....	.35	.40
L. C. L ..... do....	.40	.45
Rice:		
C. L ..... do....	.20	.28
L. C. L ..... do....	.20	.30
Salt:		
C. L ..... do....	.18	.20
Table ..... do....	.41	.46
Sisal, hemp, manilla, jute, and ramie, pressed in bales, C. L ..... do....	.23	.40
Vegetables, desiccated ..... do....	.51	.55
Wool, N. O. S., pressed in bales ..... do....	.50	.55
Cattle, C. L., released ..... per car..	67.00	75.00
Hogs, C. L., released ..... do....	67.00	75.00
Sheep, C. L., released ..... do....	67.00	75.00

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified. O. R.—Owner's risk.

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JOINT FREIGHT RATES.

Illinois Central Railroad.
Louisville and Nashville Railroad.
Louisville, New Orleans and Texas Railway.
Mobile and Ohio Railroad.

Queen and Cresent Route.
Texas and Pacific Railway.
Southern Pacific Company—Atlantic System, and connections.

[Rates in effect June 1, 1890, in cents per 100 pounds.]

Articles.	From New Orleans to—								
	Omaha, Lincoln, and Nebraska City, Nebr., Council Bluffs and Sioux City, Iowa.	St. Paul and Minneapolis, Minn.	Clinton, Davenport, and Dubuque, Iowa, Rock Island, Ill.	Kansas City and St. Joseph, Mo., Atchison and Leavenworth, Kans.	Chicago, Peoria, and Quincy, Ill., Indianapolis, Ind., Burlington and Keokuk, Iowa, Hannibal, Mo.	Cincinnati, Ohio, Jeffersonville, Ind., Lexington, Ky.	East St. Louis, Ill., Evansville, Ind., Louisville and Paducah, Ky., St. Louis, Mo.	Atlanta, Ga., Birmingham, Ala., Cairo, Ill., Columbus, Ky., Nashville, Tenn.	Montgomery and Selma, Ala.
Owner's risk, released:									
Apples	$0.75	$0.89	$0.65	$0.65	$0.55	$0.52	$0.47	$0.43	$0.40
Artichokes*	1.30	1.25	1.14	1.10	1.00	.90	.85	.77	.72
Asparagus*	1.30	1.25	1.14	1.10	1.00	.90	.85	.77	.72
Beans*	1.05	1.05	1.00	.95	.85	.80	.75	.68	.63
Beets*	.75	.89	.65	.65	.55	.52	.47	.43	.40
Berries*	1.30	1.25	1.14	1.10	1.00	.90	.85	.77	.72
Cabbage	.55	.60	.52	.50	.45	.43	.40	.36	.33
Cabbage, C. L	48	.52	.47	.46	.43	.41	.38	.34	.31
Cantaloupes*	.75	.89	.65	.65	.55	.52	.47	.43	.40
Cantaloupes, C. L*	.55	.60	.52	.50	.45	.43	.40	.36	.33
Carrots*	.75	.89	.65	.65	.55	.52	.47	.43	.40
Celery*	1.30	1.25	1.14	1.10	1.00	.90	.85	.77	.72
Cherries*	1.30	1.25	1.14	1.10	1.00	.90	.85	.77	.72
Corn (green)*	.75	.89	.65	.65	.55	.52	.47	.43	.40
Cucumbers*	.75	.89	.65	.65	.55	.52	.47	.43	.40
Damsons*	1.30	1.25	1.14	1.10	1.00	.90	.85	.77	.72
Egg Plant*	1.05	1.05	1.00	.95	.85	.80	.75	.68	.63
Garlic	.55	.60	.52	.50	.45	.43	.40	.36	.33
Garlic, C. L	.48	.52	.47	.46	.43	.41	.38	.34	.31
Grapes*	1.30	1.25	1.14	1.10	1.00	.90	.85	.77	.72
Lettuce*	1.30	1.25	1.14	1.10	1.00	.90	.85	.77	.72
Mellons, Water*	.55	.60	.52	.50	.45	.43	.40	.36	.33
Mellons, Water, C. L.	.45	.49	.44	.43	.40	.38	.35	.32	.29
Okra*	.75	.89	.65	.65	.55	.52	.47	.43	.40
Onions	.55	.60	.52	.50	.45	.43	.40	.36	.33
Onions, C. L	.48	.52	.47	.46	.43	.41	.38	.34	.31
Parsnips*	.75	.89	65	.65	.55	.52	.47	.43	.40
Peaches*	1.05	1.05	1.00	.95	.85	.80	.75	.68	.63
Pears*									
Pease*									
Pepper, sweet*									
Plums, common*	.75	.89	.65	.65	.55	.52	.47	.43	.40
Potatoes	.55	.60	.52	.50	.45	.43	.40	.36	.33
Potatoes, C. L	.45	.49	.44	.43	.40	.38	.35	.32	.29
Radishes*	.75	.89	.65	.65	.55	.52	.47	.43	.40
Rhubarb, green	1.30	1.25	1.14	1.10	1.00	.90	.85	.77	.72
Squash*	.75	.89	.65	.65	.55	.52	.47	.43	.40
Spinach*	1.05	1.05	1.00	.95	.85	.80	.75	.68	.63
Tomatoes*	1.05	1.05	1.00	.95	.85	.80	.75	.68	.63
Turnips	.55	.60	.52	.50	.45	.43	.40	.36	.33
Turnips, C. L	.48	.52	.47	.46	.43	.41	.38	.34	.31

*Freight must be prepaid or guaranteed. C. L.—Car load (min. wgt. 20,000 pounds).

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CHICAGO, BURLINGTON AND QUINCY RAILROAD.

[Rates in effect June 1, 1890.]

Articles.	To St. Louis from—		To Chicago from—	
	Atchison, Kansas City, St. Joseph.	Omaha, Council Bluffs.	Atchison, Kansas City, St. Joseph.	Omaha, Council Bluffs.
Apples, in barrels or boxes, O. R., prepaid or guaranteed				
C. L ..... per 100 lbs..	$0.20	$0.20	$0.25	$0.25
L. C. L ..... do..	30	30	40	25
Bacon and hams:				
Packed, C. L ..... do..	7	7	12	12
In barrels, boxes, or crates, L. C. L ..... do..	25	25	30	30
Beef:				
Dried or pickled, in barrels or tierces, C. L ..... do..	7	7	12	12
Dried, in boxes, barrels, or crates, L. C. L ..... do..	25	25	30	30
Dressed, common cars, C. L ..... do..	13½	13½	18½	18½
Dressed, refrigerator cars, C. L ..... do..	13½	13½	18½	18½
Butter, in wood or tin, O. R.:				
C. L ..... do..	30	30	40	40
L. C. L ..... do..	40	40	60	60
Cheese, in boxes, tubs, or casks:				
C. L ..... do..	30	30	40	40
L. C. L ..... do..	40	40	60	60
Cotton, pressed in bales, any quantity ..... do..	55	55	75	75
Fertilizers, except guano N. O. S., in packages:				
C. L ..... do..	7	7	12	12
L. C. L ..... do..	25	25	30	30
Flour:				
C. L ..... do..	17½	20	22½	25
In barrels (200 pounds per barrel) L. C. L ..... do..	25	25	30	30
Hides, dry:				
In bundles, L. C. L ..... do..	55	55	75	75
C. L. (minimum weight, 10,000 pounds) ..... do..	40	40	60	60
Hides, green, in bundles, C. L ..... do..	20	20	25	25
Hogs dressed:				
Common cars, C. L ..... do..	13½	13½	18½	18½
Refrigerator cars, C. L ..... do..	13½	13½	18½	18½
Lard, in barrels or tierces:				
C. L ..... do..	7	7	12	12
L. C. L ..... do..	25	25	30	30
Lumber:				
Soft, C. L ..... do..	8½	*11½	13	13 |
Hard, C. L ..... do..	11½	11½	16	16
(Except woods of value), L. C. L ..... do..	25	25	30	30
Pork, packed:				
C. L ..... do..	7	7	12	12
L. C. L ..... do..	25	25	30	30
Potatoes, N. O. S., in sacks or barrels, O. R.:				
C. L ..... do..	15	15	20	20
L. C. L ..... do..	25	25	30	30
Potatoes, sweet, O. R., L. C. L ..... do..	40	40	60	60
Tobacco, unmanufactured, in hogsheads or cases, L. C. L ..... do..	25	25	30	30
Wool:				
Compressed in bales, L. C. L ..... do..	30	30	40	40
In sacks, L. C. L ..... do..	40	40	60	60
Wheat, C. L ..... do..	17½	20	22½	25
Corn, rye, oats, and barley, C. L ..... do..	15	15	20	20
Cattle, C. L ..... do..	†9½	12½	†12½	21
Sheep, S. D. or D. D., C. L ..... do..	†14½	14½	†22	22
Hogs, S. D. or D. D., C. L ..... do..	†13	17½	†22	25
Horses, in standard cars, C. L ..... per car..	40.00	40.00	60.00	60.00

*Council Bluffs 2 cents less. | On through car-load rates from points west of Kansas City, St. Joseph, and Atchison to Chicago and common points, the receiving agent will rebate $7.35 per car regardless of dimensions, and to St. Louis and common points $4.80 per car.

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified. S. D.—Single-deck. D. D.—Double-deck.

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CHICAGO AND ALTON RAILROAD.

[Rates in effect June 1, 1890, in cents per 100 pounds.]

Articles.	To Chicago from—			From Chicago to—			To East St. Louis from—			From East St. Louis to—		
	Bloomington.	East St. Louis.	Kansas City.	Bloomington.	East St. Louis.	Kansas City.	Louisiana.	Cedar City.	Kansas City.	Louisiana.	Cedar City.	Kansas City.
Agricultural implements (except hand) C. L.	13.7	15	30	15	15	25	11	18½	22½	11	17½	17½
Apples: C. L	12.6	14	25	12.6	14	18	9½	17	20	9½	13	13
L. C. L	20	20	40	20	20	35	17	27	30	17	25	25
Bacon: C. L	15	15	25	15	15	18	9½	17	20	9½	13	13
In barrels, L. C. L	20	20	30	20	20	25	14	22	25	14	20	20
Beef: Pickled, C. L	15	15	25	15	15	18	9½	17	20	9½	13	13
Salted, in barrels, L. C. L	20	20	30	20	20	25	14	22	25	14	20	20
Dressed, C. L	20	20	23½	20	20	18½	13½	18½	18½	13½	13½	13½
Butter, in wood, L. C. L	26.6	29	60	26.6	29	50	22	40	40	22	30	30
Cheese: C. L	20	20	40	20	20	35	17	27	30	17	25	25
L. C. L	33.8	38	60	33.8	38	50	22	22	25	22	30	30
Cotton, pressed in bales: C. L	20	20	30	20	20	25	14	22	25	14	20	20
L. C. L	26.6	29	75	26.6	29	60	30	50	55	30	40	40
Fertilizers: C. L	7.1	9	16	7.1	9	13	7	9	11	7	8	8
L. C. L	20	20	30	20	20	25	14	22	25	14	20	20
Flour: C. L	9.7	10	22½	9.7	10	22½	7½	13	17½	7½	13	17½
In barrels, L. C. L	20	20	30	20	20	25	14	22	25	14	20	20
Grain, other than wheat, C. L	8.9	12	25	8.9	12	20	7	16½	17½	7	10	15
Hams: C. L	15	15	25	15	15	18	9½	17	20	9½	13	13
In barrels, L. C. L	20	20	30	20	20	25	14	22	25	14	20	20
Hogs, dressed, C. L	20	20	30	20	20	25	13½	22	25	13½	13½	13½
Lard in barrels or tierces: C. L	15	15	25	15	15	18	13	17	20	13	13	13
L. C. L	20	20	30	20	20	25	14	22	25	14	20	20
Lumber: C. L	9	10	13	9	10	10	7	8	8½	7	7	7
L. C. L	20	20	30	20	20	25	14	22	25	14	20	20
Pork, salted: C. L	15	15	30	15	15	25	13	22	25	13	13	13
In barrels, L. C. L	20	20	20	20	20	15	14	14	15	14	20	20
Potatoes, in barrels: C. L	9.7	13	20	9.7	13	15	9	14	15	9	10	10
L. C. L	20	20	30	20	20	25	14	22	25	14	20	20
Salt, C. L	20	20	25	20	20	18	6.2	17	20	6.2	9⅜	9⅜
Sheep, dressed, C. L	20	20	23½	20	20	18½	13½	18½	18½	13½	13½	13½
Tobacco, unmanufactured, in hhds	20	20	30	20	20	25	14	22	25	14	20	20
Wheat, C. L	9.7	13	22½	9.7	13	22½	7½	13	17½	7½	13	7½
Wool, C. L. (minimum weight 20,000 pounds)	13.7	15	40	13.7	15	35	17	27	30	17	25	25
Cattle: C. L. (minimum weight 20,000 pounds)	11.8	14	12½	11.8	14	12½	7½	7½	7½	7½	7½	7½
Estimated weight, L. C. L	43.2	47	75	43.2	47	60	30	50	55	30	40	40
Horses: C. L. (minimum weight 20,000 pounds)	12.98	15.4	13.75	12.98	15.4	13.75	8.25	8.25	8.25	8.25	8.25	8.25
Estimated weight, L. C. L	43.2	47	75	43.2	47	60	30	50	55	30	40	40
Sheep, single deck, C. L. (minimum weight 12,000 pounds)	16.7	20	22	16.7	20	22	12	13	14½	12	13	14½
Sheep, double-deck, C. L. (minimum weight 20,000 pounds)												
Hogs, single-deck, C. L. (minimum weight 15,000 pounds)	15.9	19	22	15.9	19	22	11	12	13	11	12	13
Hogs, double-deck, C. L. (minimum weight 22,000 pounds)												
Hogs, estimated weight, L. C. L	43.2	47	75	43.2	47	60	30	50	55	30	40	40

C. L.—Car-load. L. C. L.—Less than car-load.

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CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY.

[Rates in effect June 1, 1890, in cents per 100 pounds.]

Articles.	To St. Paul, Minneapolis, or Minnesota Transfer from—			From St. Paul, Minneapolis, or Minnesota Transfer to—		
	Chicago, Milwaukee, Joliet.	Alton, East St. Louis, St. Louis.	Burlington, Muscatine, Davenport Rock Island.	Chicago, Milwaukee, Joliet.	Alton, East St. Louis, St. Louis.	Burlington, Muscatine, Davenport, Rock Island.
Agricultural implements (except hand) C. L.	17	18	14	17	18	14
Apples, in barrels or boxes, O. R., P. P. or guaranteed:						
C. L.	12½	13	12½	20	21	20
L. C. L.	22	23	22	40	42	40
Bacon, hams, and shoulders, packed:						
C. L.	12½	13	12½	12	13	12
L. C. L.	17	18	17	25	26	25
Beans and peas, dried, in barrels or in bulk, C. L.	12½	13	12½	20	21	20
Beef, pickled, C. L.	12½	13	12½	13	13	12
Butter, in wood or tin:						
O. R., C. L.	22	23	22	40	42	40
O. R., L. C. L.	30	31½	30	50	52½	50
Cheese, in boxes, tubs, or casks:						
C. L.	22	23	22	40	42	40
L. C. L.	30	31½	30	50	52½	50
Fertilizers, except guano, C. L.	10	10½	10	12	13	12
Flour, in barrels:						
C. L.	12½	15	12½	12½	16	12½
L. C. L.	17	18	17	25	26	25
Fruit, dried, N. O. S., in cans, barrels, boxes, or sacks, released, C. L.	17	18	17	25	26	25
Fruit, green, N. O. S., O. R., P. P. or guaranteed:						
C. L.	22	23	22	45	42	40
L. C. L.	40	42	40	60	63	60
Hides, dry:						
In bundles, L. C. L.	40	42	40	60	63	60
C. L. (minimum weight 10,000 pounds)	30	31½	30	50	52½	50
Hides and sheep-pelts, green, C. L.	12½	13	12½	12	13	12
Hops, L. C. L.	30	31½	30	50	52½	50
Lard:						
C. L.	12½	13	12½	12	13	12
In barrels or tierces, L. C. L.	17	18	17	25	26	25
Lumber:						
Hard, C. L.	14	14	14	14	14	14
Soft, C. L.	14	14	14	14	14	14
Except woods of value, L. C. L.	17	18	17	25	26	25
Meats, fresh, C. L. (except dressed hogs)	22	23	.....	22½	23½	.....
Oil cake and oil cake meal, C. L.	12	12½	12	16	17	16
Pork, packed, C. L.	12½	13	12½	12	13	12
Potatoes, N. O. S., in sacks or barrels:						
O. R., C. L.	12	12½	12	17	18	17
O. R., L. C. L.	17	18	17	25	26	25
Salt:						
In barrels or in bulk, C. L.	8½	15	8½	14	15	14
In sacks, boxes, or barrels, L. C. L.	17	18	17	25	26	25
Tobacco, unmanufactured, in hogsheads or cases, L. C. L.	17	18	17	25	26	25
Wheat, and its products, C. L.	12½	15	12½	12½	16	12½
Flax, millet, and hemp seed, C. L.	16	17	16	16	17	16
Corn, rye, oats, and barley, C. L.	12½	15	12½	12½	16	12½
Wool:						
In sacks, L. C. L.	30	31½	30	50	52½	50
Compressed in bales, L. C. L.	22	23	22	40	42	40
Poultry, alive, in coops, O. R., released, P. P., or guaranteed	17	18	17	25	26	25
Horses and mules, in standard cars, C. L.	27½	28 50/100	27½	27½	28 50/100	27½
Cattle, C. L.	25	26½	25	25	26½	25
Hogs, C. L.	27	28 50/100	27	27	28 50/100	27
Sheep, C. L.	27	28 50/100	27	27	28 50/100	27

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified.
P. P.—Prepaid. O. R.—Owner's risk.

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MONTHLY STATEMENT OF CANAL AND LAKE RATES FOR MAY, 1890.

Date.	Canal rates, Buffalo to New York.					Lake rates, Chicago to Buffalo.		
				Lumber per 1,000 feet.				
	Oats per bushel.	Corn and rye per bushel.	Wheat per bushel.	To Albany.	To New York.	Oats per bushel.	Corn per bushel.	Wheat per bushel.
	Cents.	*Cents.*	*Cents.*			*Cents.*	*Cents.*	*Cents.*
May 1	2⅛	3⅛	4	$1.75	$2.25	1½	1⅛	1⅜
2	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
3	2⅛	3⅛	4	1.75	2.25	1½	1⅛	2
4	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
5	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
6	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
7	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
8	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
9	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
10	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
11	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
12	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
13	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
14	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
15	2⅛	3⅛	4	1.75	2.25	1⅜	1⅛	1⅜
16	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
17	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
18	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
19	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
20	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
21	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
22	2⅛	3⅛	4	1.75	2.25	1½	1⅛	1⅜
23	2⅛	3⅛	4	1.75	2.25	1⅜	1½	1½
24	2⅛	3⅛	4	1.75	2.25	1⅜	1½	1⅜
25	2⅛	3⅛	4	1.75	2.25	1⅜	1½	1⅜
26	2⅛	3⅛	4	1.75	2.25	1⅜	1½	1⅜
27	2⅛	3⅛	4	1.75	2.25	1⅜	1½	1⅜
28	2⅛	3⅛	4	1.75	2.25	1⅜	1½	1⅜
29	2⅛	3⅛	3⅛	1.75	2.25	1⅜	1½	1⅜
30	2⅛	3⅛	3⅛	1.75	2.25	1⅜	1½	1⅜
31	2⅛	3⅛	3⅛	1.75	2.25	1⅜	1½	1⅜

YAZOO AND TALLAHATCHIE TRANSPORTATION COMPANY.

[Rates in effect June 1, 1890.]

Articles.	Vicksburg, Miss., to—		
	All landings below Yazoo City Yazoo City.	Silver Creek, Tchula, Riverside, and Greenwood.	Tallahatchie River.
Apples and peaches, dried, per 100 lbs.	$0.12½	$0.12½	$0.15
Bacon, packed, do.	.10	.10	.12½
Beans, in barrels, boxes, or sacks, do.	.12½	.12½	.15
Beef and pork, per bbl.	.35	.35	.40
Beef, smoked, in boxes or barrels, per 100 lbs.	.12½	.12½	.15
Butter, in wood, do.	.15	.15	.20
Cheese, do.	.15	.15	.20
Corn meal, per bbl.	.20	.20	.25
Cotton, in bales, per bale.	.75	.75	1.00
Flour, in barrels, per bbl.	.20	.20	.25
Grain, per 100 lbs.	.10	.10	.15
Lard, in buckets, tierces, kegs, or cases, do.	.10		
Lumber, do.	4.00	4.00	5.00
Oranges and lemons, do.	.15	.15	.20
Potatoes, in barrels, per bbl.	.20	.20	.25
Salt, table, per 100 lbs.	.15	.15	.20

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OCEAN STEAM-SHIP COMPANIES.

[Rates in effect June 1, 1890.]

Articles.	White Star Line, New York to Liverpool.	Inman Line, New York to Liverpool.	Guion Line, New York to Liverpool.	Anchor Line, New York to Glasgow.
Wheat.....per bushel..	$0 04	$0. 04	$0. 04	$0. 05
Corn.....do.....	.04	.04	.04	.05
Flour.....per barrel..	.30	.36	.36	.36
Flour (in sacks).....per 2,240 pounds..	1 80	2. 40	2 40	3. 00
Bacon.....do.....	3. 60	3. 00	3. 00	5. 40
Lard.....do.....	3. 60	3. 00	3. 00	5. 40
Cheese.....do.....	7. 20	6. 00	6. 00	8. 40
Tallow.....do.....	2. 40	3. 00	3. 00	4. 80
Beef.....per tierce..	.48	.48	.48	1. 08
Pork.....per barrel..	.24	.36	.36	.72
Oil-cake.....per 2,240 pounds..	2. 40	2. 40	2. 10	3. 00
Cotton.....per pound..	.00 1/16	.00 3/16	.00 3/16	.00 3/16
Hops.....do.....	.00 1/8	.00 1/8	.00 1/8	.00 1/8
Tobacco.....per hogshead..	3. 60	4. 20	4. 20	4. 80
Rosin.....per 280 pounds..	.30	.42	.48	.36
Lard (in small packages).....per 2,240 pounds..	7. 20	4. 86	6. 00	6. 60
Tobacco (in cases).....per 40 cubic feet..	3. 60	3 60	4. 80	4. 80
Apples.....per barrel..	.....	.48	.72	.84
Hams.....per 2,240 pounds..	3. 60	3. 00	3 60	5. 40
Butter.....do.....	7. 20	7. 20	7. 20	8. 40
Measurement per ton (40 cubic feet).....	3. 60	3. 60	3 00 to 3. 60	4. 20 to 6. 00
Primage.....per cent..	5	5	5	5

Articles.	North German Lloyd Steam-ship Company, New York to Bremen.	General Transatlantic Company, New York to Havre.
Wheat.....per 100 pounds..	$0. 16	*$0. 08
Corn.....do.....	.16	*.07
Flour.....per barrel..	.70	1. 00
Flour (in sacks).....per 100 pounds..	.22	.25
Bacon.....do.....	.24	.....
Lard.....do.....	.24	.30
Cheese.....do.....	.36	.....
Tallow.....do.....	.24	.27½
Beef.....per tierce..	1. 25	1. 00
Pork.....per barrel..	1. 00	.90
Oil-cake.....per 100 pounds..	.20	.25
Cotton.....per pound..	†.00½	.00½
Hops.....do.....	†.01	.....
Tobacco.....per hogshead..	6. 00	7. 50
Rosin.....per 280 pounds..	.70	.....
Lard (in small packages).....per 100 pounds..	.36	.....
Tobacco (in cases).....per case..	1. 50	‡8. 00
Apples.....per barrel..	.75	.80
Hams.....per 100 pounds..	.30	.....
Butter.....do.....	.60	.....
Measurement per ton (40 cubic feet).....	4. 80 to 10. 00	10. 00
Primage.....per cent..	.....	5

*Per bushel. †And 5 per cent. primage. ‡Per 40 cubic feet.

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DEPARTMENT OF AGRICULTURE.
REPORT OF THE STATISTICIAN.
New Series. Report No. 75.

REPORT

ON THE

AREA OF CORN, POTATOES, AND TOBACCO,

AND

CONDITION OF GROWING CROPS,

AND ON

FREIGHT RATES OF TRANSPORTATION COMPANIES.

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

JULY, 1890.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1890.

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JULY REPORT.

DEPARTMENT OF AGRICULTURE,
July 11, 1890.

SIR: I submit herewith for publication a report of the acreage of corn, potatoes, and tobacco, and on the condition of cotton, corn, winter and spring wheat, rye, barley, oats, potatoes, beans, sorghum, the grasses, and various fruits.

A report of the crop conditions in the principal countries of Europe on the 1st of July, by the statistical agent of this Department, resident in London, is included. It reports the prevalence of wet and cool weather generally, and a slight depreciation during the month of the current expectation of the wheat harvest.

An article on "Statistics of Mexico," from official sources, indicates the capabilities, natural resources, and progress in development of this neighboring nation, showing its advancement in agriculture and industry and education.

Tables showing changes in rates of transportation are also presented.

Respectfully,

J. R. DODGE,
Statistician.

Hon. J. M. RUSK,
Secretary.

CROP REPORT FOR JULY.

CORN.

It might be supposed that the large area and product and low price of the last crop of corn would prevent increase of area the present year, and possibly reduce it. The uses of this cereal are so various and important, however, that reduction is difficult. As the crop is practically for domestic consumption, an increase of 2 or 3 per cent. to keep pace with advance of population, might reasonably be expected. The present returns indicate an increase of area of about seven-tenths of 1 per cent., or about a half million acres. The crop always has a breadth far greater than the acreage of all other cereals combined, and is quite as distinct-

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ively and peculiarly adapted to our soil and climate as the upland cotton, or tobacco, though each has its belt of highest possibilities. The largest proportional extension is in the States of the Northwest and in the Rocky Mountain region. The Dakotas report an increase of 8 per cent. over last year, while Minnesota and Iowa show a very considerable extension of maize area. The cotton-growing States have added at least 1 per cent. to the breadth of last year. It is a fact not generally appreciated, that even in the Southern States corn in the aggregate occupies the largest portion of the cultivated area, cotton standing second in extent of cultivation.

The planting season was unfavorable for extension of area in the Eastern and Middle States. It was too wet and cold for early planting. Cut-worms have been very destructive in the South, causing defective stands. In some instances repeated plantings were required. It is generally in fine condition, vigorous in growth, and high in color throughout the cotton region. It is now threatened with drought in some places. Rains have prevented cultivation in Mississippi and further west, and nearly drowned the crop in low lands. It has recently improved rapidly, and rains are now needed, especially in Texas.

In the Ohio Valley the crop is late and the stand somewhat irregular, in consequence of wet weather in May. In the last half of June the crop has made rapid advances, and is now quite generally very promising. In some counties of Illinois great need of rain is indicated.

The condition of corn, averaged for the entire breadth, is 93.1.

For views of State agents concerning this crop, see extracts from their reports in another place.

In examining extracts from reports of county correspondents, which follow, it should be remembered that these remarks are voluntary, and may not represent half the counties from which systematic estimates of area and condition of crops are obtained, and which are consolidated to form the State averages:

VERMONT.—*Caledonia:* Too cold weather for corn. *Franklin:* Backward and poor. *Orleans:* Is looking fairly well for its age; the indications are for three-fourths of a crop. *Rutland:* Is rather backward on account of late planting. *Washington:* The silo as a supplementary cow feed causes an increase of acreage of corn. *Bennington:* Good stand; growing fast.

MASSACHUSETTS—*Plymouth:* Starts slowly for lack of heat. *Bristol:* Less corn was planted than usual, and owing to cold, wet weather looks unpromising. *Franklin:* Is backward, owing to wet weather. *Hampshire:* A little backward, otherwise looks well. *Middlesex:* Is quite backward on account of cold, wet weather in June.

CONNECTICUT.—*Fairfield:* Growing finely; good color; average stand. *Windham:* Backward; present warm weather will probably bring it all right. *Hartford:* Has improved 50 per cent. in last week. *Litchfield:* For past few days weather has been dry and hot, and very favorable for corn.

RHODE ISLAND.—*Providence:* A little backward on account of wet weather.

NEW YORK.—*Clinton:* Had to be replanted in some instances, owing to rot. *Ontario:* Continued rains have made the planting of corn irregular and difficult, some pieces having just now been finished; acreage reduced for the same reason. *Wyoming:* The wet weather of May and June lessened the acreage and affected condition.

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Chautauqua: The decrease in acreage and low condition are due to excessive rains in May. *Cattaraugus:* Though planted late is looking well. *Genesee:* Decreased acreage, owing to wet weather at planting time, many farmers not putting in as much as intended, preferring to trust to other crops. *Putnam:* Small for time of year. *Warren:* The first half of June was very wet, retarding corn-planting. *Delaware:* Unfavorable weather at time of planting; is now looking well. *Fulton:* Up to middle of June too wet and cool for corn. *Sullivan:* Weather unfavorable to growth; too wet. *Tioga:* May was very rainy and the usual area was not planted; is backward, and many pieces drowned out. *Tompkins:* Backward. *Westchester:* Too much rain at planting time, but warm weather is hurrying it along. *Allegany:* Never looked better for length of time planted; has made great growth.

NEW JERSEY.—*Cumberland:* Owing to cold, wet spring, came up poorly, and looks bad. *Burlington:* Is not forward, but is starting vigorously, warmth favoring growth. *Morris:* Growth retarded by wet weather, but during the past week has improved and is now up to standard. *Gloucester:* A good stand, but small. *Salem:* Looking well. *Warren:* Will compare with an average crop; some small, on account of late planting.

PENNSYLVANIA.—*Juniata:* In some places shows the effect of worm in the stalk; grub is working to some extent on the tap root. *Northumberland:* Looks promising. *Wayne:* Was planted too early and had to be replanted. *York:* Promises a large yield. *Carbon:* Late on account of late planting. *Crawford:* Is coming on rapidly, but is late. *Washington:* Planted late owing to wet weather, but now growing vigorously. *Cambria:* Improving. *Center:* Is short, but good stand and color. *Schuylkill:* Could not be much better. *Blair:* Owing to wet weather not quite as much planted as last year; some was planted very late, hence average condition is not so good; is now growing and may be a good average by next report. *Butler:* Very thrifty but a little late; never knew the weather more favorable. *Elk:* Owing to wet weather was planted late; generally the stand is thin; growth is good, however, and with good weather and late fall may have a fair crop. *Fayette:* Owing to continued heavy rains during planting season, was planted late and less than the usual area; the ground is not in good condition for growth; so far all our rains have come with a dash. *Lawrence:* Is late and short, but is growing rapidly under seasonable weather, and looks well. *Mercer:* Was not generally planted until June, therefore small, but growing rapidly. *Snyder:* Condition very good. *Sullivan:* Is small on account of too much rain. *Union:* Late and not well set. *Venango:* Is small but a good stand and doing well. *Lebanon:* Looks very promising. *Montour:* The acreage is a little short of last season, owing to wet weather at planting time. *Indiana:* In good ground, and where well worked and early planted is making good appearance; prospects upon the whole not very promising.

DELAWARE.—*Kent:* Corn planted early the best stand; late planting has made slow growth and looks sickly.

MARYLAND.—*Harford:* Is looking well, and promises at this time a good yield. *Baltimore:* Is looking fairly well; rather backward in growth owing to cool weather in early part of season. *Caroline:* Has been injured by bud-worms to a great extent. *Garrett:* Is making rapid growth. *Queen Anne:* Condition very poor; a great many insects; acreage same as last year. *Montgomery:* Late, but looking well so far. *St. Mary's:* Looks well and promises a fair yield. *Howard:* Stood well, but does not seem to grow as it ought.

VIRGINIA.—*Accomack:* Is doing well on high land. *Chesterfield:* Very good, though rather a bad stand. *Greene:* Corn that has been worked looks well. *Powhatan:* Is looking well. *Russell:* Looks promising. *Appomattox:* The usual crop; condition promising. *Prince William:* Is looking well. *Stafford:* Insects this year have been very destructive to corn, necessitating replanting, but the favorable weather since has repaired all damage. *Culpeper:* Quite promising on bottom and upland. *Hanover:* Though a little backward is looking well, and promises nearly an average crop; has been well worked. *Middlesex:* Slightly damaged by cut-worm, other-

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wise in advance of the season. *Southampton:* Is looking well; bad stands on stiff land. *Surry:* Bud-worm thinned out corn, but owing to favorable weather in June is a full average as to condition. *Dinwiddie:* The failure of the crop last year stimulated our people to plant a large area this year; there is not a good stand, and the worms are doing considerable damage, still the growing crop is promising. *Halifax:* Has been well cultivated; the stand is fair, color healthy, and though small is growing rapidly. *Henrico:* General complaint of bad stand, caused by cool weather at planting time, and wire worm. *James City:* A dry June has enabled farmers to keep corn well worked. *Warren:* In some sections of county is somewhat in the grass, owing to too much rain, also damaged by hail to some extent; generally well cultivated and looks well. *Brunswick:* Stands poor, and the wire worm is very destructive on all low lands. *Buchanan:* Is looking well. *King and Queen:* Is looking well. *Mathews:* Looking very well. *Northampton:* Needs rain at time of writing. *Nottoway:* Promises well. *Prince George:* Never saw the bud-worm so bad in corn; looks as if it will destroy one-half the crop if it continues cutting as it has since the plant was 6 inches high. *Pulaski:* Is suffering from prolonged drought, but is not yet seriously injured. *Patrick:* Looking fine; beginning to need rain.

NORTH CAROLINA.—*Bertie:* Better than for several years. *Columbus:* A larger area than for a number of years. *Cumberland:* Crop favorable, but worms have left irregular fields. *Forsyth:* Very promising. *Henderson:* Has been greatly damaged by cut worms; many fields planted as often as three times; some fields were plowed up and planted in potatoes. *Onslow:* Very fine and promising. *Person:* Condition more flattering than for years at this period. *Polk:* Is looking well, but weather is a little too dry. *Yadkin:* About same area as previous years; greatly injured by worms, etc. *Hertford:* Is looking very well; is beginning to shoot. *Johnston:* Good except stand; somewhat damaged by insects. *Beaufort:* Defective stand on some low lands, in all other respects much above average. *Wilson:* On light land better than for many years; on stiff soils has suffered from drought. *Franklin:* Very fine; continued favorable weather. *Halifax:* Crop promising; stand not perfect. *Northampton:* Cut worms prevented a good stand of corn early. *Pamlico:* Splendid. *Burke:* On low land damaged by worms; some places not more than half a stand; looks well on sandy land. *Caldwell:* Is difficult to estimate; cut worms have done great injury, especially in wet land and to late planted; some ground has been replanted three to four times without securing a stand; nearly all has been injured more or less, but the color is good and the season favorable. *Pitt:* Was injured some by being blown down the past week. *Surry:* Has suffered from bud-worms. *Transylvania:* The bud-worm has played havoc with the corn crop, yet the season has been fine. *Yancey:* Badly injured by bud-worm. *Alamance:* Increased acreage; in fine growing condition, but not a full stand owing to depredations of cut-worm. *Ashe:* Doing well, but too dry just now. *Caswell:* The increase of acreage is very perceptible and condition is good. *Greene:* Acreage increased 3 per cent.; condition better than for several years; some late spots on account of bud-worms, but on the whole the crop is splendid. *McDowell:* Corn has suffered from a small hard worm, that enters the plant near the grain and literally destroys it; the poorest stand ever known in the county; where there is anything like a stand it is about an average. *Moore:* Very good. *Mecklenburg:* A small decrease in acreage. *Carteret:* Season all that could be desired. *Nash:* Crop very fine; good stand, and three weeks earlier than for many years.

SOUTH CAROLINA.—*Anderson:* Doing well. *Laurens:* Both bottom and up land doing well. *Darlington:* Crop very good where fertilized. *Oconee:* Is needing rain and will be badly injured if it continues dry much longer. *Barnwell:* A wet May and recently unusual heat and want of rain have reduced the average of crop. *Berkeley:* The recent dry weather has hurt corn, as it should now be filling in ear. *Colleton:* The crop is fine and will be very large; the season has been all that could be desired; crop is made. *Georgetown:* On low or wet lands is better than usual. *Lexington:*

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Generally good, but the universal complaint is of poor stands, which will certainly affect the yield. *Marlborough:* Dry for forward corn.

GEORGIA.—*Baldwin:* On June 20, the prospect was unusually fine, but a drought now unbroken makes future condition doubtful. *Brooks:* Doing well. *Clayton:* Ten days now without rain, and the evaporation has been very rapid; ten days more of drought would greatly reduce crop, as the ear is just now in embryo. *Dawson:* Stand very irregular, but looks well. *Douglass:* Where well cultivated and good stand, condition is very good; in early spring was troubled a great deal by bud-worms. *Early:* Safe, with another rain or two. *Fulton:* Three weeks drought with excessive heat has materially injured the crop. *Gilmer:* A bad stand, cut-worms worse than common. *Meriwether:* Fully up to the average, but will fail very rapidly unless it rains soon. *Milton:* Was never better. *Newton:* Very promising. *Pierce:* Very promising. *Thomas:* Very promising. *Twiggs:* Was never more promising. *Upson:* Season good for crop up to date. *Walker:* Bad stand generally, on account of bud-worm in the spring. *Campbell:* The latter part of June has been exceptionally fine for cleaning crop; good stands in fine condition and growing finely. *Coffee:* Will make a supply for use if rain is plenty until the 25th of July. *Gwinnett:* Particularly promising. *Haralson:* Later than last year, but bud-worms have quit now and corn is doing well. *Tattnall:* Fine seasons, and corn is looking well where well planted and well worked. *Banks:* Looks fine. *Baker:* Good condition; promises a large yield. *Jefferson:* Corn is suffering for rain; thermometer in the nineties; crop will be cut short unless it rains. *Habersham:* Is looking fine. *Bibb:* Condition low, caused by dry, hot weather. *Cobb:* Prospect very good. *Colquitt:* We are improving in production; farmers are fertilizing more and cultivating better. The yield per acre is better. *Dooly:* With two more weeks of favorable weather corn will be made. *Forsyth:* The finest crop for several years if we get a few more rains. *Franklin:* Prospect very good if July is seasonable. *Glynn:* Suffered from drought, but has improved very much in the last ten days. *Greene:* Good stands and the prospect very flattering. *Irwin:* A very good average. *Macon:* Promise for corn extremely flattering. *Paulding:* Quite late on low lands; was plowed up and replanted two or three times, yet not a good stand in many places—bud-worms said to be the cause. *Wayne:* Generally good. *Taliaferro:* Has lost 10 points in the last ten days from hot, dry weather. *Screven:* Doing finely, and with occasional rains in July an unusually large crop will be made. *Walton:* Exceedingly hot, with drying winds. Upland corn just in the proper state to be cut short in a very few days; good prospect with good seasons for a short time. *Wilkes:* Rain is now very much needed, especially for forward corn. *Hancock:* An extremely hot spell checked corn considerably; rains to-day may be in time to prevent serious damage. *Liberty:* Doing nicely. *Troup:* Looks exceedingly promising.

FLORIDA.—*Nassau:* Never looked better. *Orange:* Good rains, and crop has never been so good. *Citrus:* The outlook is more encouraging since the rains set in. Some sections suffered terribly from bud-worm about the period of bunching for tassel, but the rains forced the worm to abandon its hold. *Santa Rosa:* Promises to be above an average crop. *Gadsden:* Promises to be good; will be safe from drought in a week or ten days. *Leon:* Good seasons have made good crops; is now considered safe. *St. John's:* Has done very well, but is only grown for home consumption. *Taylor:* The low condition is due to excessive rains since May 4 in northern part of county, where crops on low lands are a failure. In other parts of the county crop seems to be in good condition. *Bradford:* Decrease is caused by excessive rains in some localities and drought in others.

ALABAMA.—*Bibb:* Ten days late; seasons unfavorable up to middle of June. *Chambers:* Doing well; more interest taken in preparing and fertilizing crop than heretofore. *Conecuh:* Prospect good for a full crop; early planting well advanced and in good condition; late planting looking well, but it is too early to tell what will be the result. *Pickens:* Weather very favorable for good cultivation. *Clarke:* Condi-

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tion fine, with an unusual acreage. *Monroe:* Is doing well, and with one or two more good seasons will yield about an average crop. *Sumter:* Stand bad on bottoms. *Washington:* Not so good as last year; is affected more or less by drill and bud worm, the winter not being harsh enough to destroy the insects. *Barbour:* Hot and dry weather; one more week will seriously cut off crop. *Coffee:* Although last year's crop was an exceptionally large one, the prospect now is far better than it was last year. *Cullman:* Looking well, but suffering somewhat for rain; drought for last twenty days. *Elmore:* Rain has greatly interfered with cultivation of crop and 2 per cent. will be abandoned. *Lee:* Greatly improved by recent rains and warm weather; now bids fair for a large yield. *Bullock:* Crop over an average; in some localities seasons have been favorable, in others too much rain. *Calhoun:* Spotted, though good in some sections where rainhas been plenty. *Winston:* Dry weather is ruining the crop; no rain for two weeks. *Dallas:* Prospect is favorable for a good crop. *Hale:* Good to date; suffering in some parts of county for rain. *Limestone:* Well worked, owing to dry June, hence may expect great improvement. *Jackson:* Rains for a week or more have been partial in some localities and corn is suffering some; it was fine some days ago, but it has been dropping since. *Randolph:* Never better. *St. Clair:* Has done well up to this time, but is now failing a little on account of dry weather and the intense heat of the sun. *Shelby:* Promising, although the rain-fall has been light during June. *Walker:* Doing extremely well. *Marengo:* Not as good as last year; too much rain during the month; are now having a very dry, hot spell.

MISSISSIPPI.—*Chickasaw:* Nearly overcome by grass, due to rains through May, up to June 7. With good seasons may yet have a good crop. *Lauderdale:* Good crop; recent rains will be beneficial. *Hinds:* Prospect better than for several years. *Union:* Very promising. *Lawrence:* A large crop virtually assured. *Newton:* Spotted. The yield can not be as good as formerly. *Scott:* Too much rain for crop. *Panola:* Poor stands and badly cultivated. *De Soto:* The late, wet season was detrimental to crop. *Coahoma:* Badly damaged by the rains on lands not well drained. Corn has been neglected to save cotton. *Marshall:* Is generally laid by, except some late planting; above an average. *Neshoba:* Prospects favorable for a moderately good crop. *Tate:* Is not looking well; small and yellow. We are somewhat blue on the corn question. *Webster:* A very good prospect. *Prentiss:* Good stands, and better than usual. *Pike:* Generally very fine. *Greene:* Prospect good. *Grenada:* Unusually small for this season of the year. Farmers are behind with their work, owing to wet weather which prevailed until about the 10th of June. *Lee:* Rain badly needed in many parts of county. Crop is very uneven and unsatisfactory. *Le Flore:* The first planting, about 50 per cent., is good, crop generally only tolerable. *Madison:* No rain for about eighteen days, and in consequence much early corn is suffering and may be cut short. *Monroe:* Wilting, and will do nothing without an early rain. *Tunica:* Prospect is bad in the overflow portion of county; weather too dry to bring it up. *Yalobusha:* A full crop is confidently expected. The past month was quite favorable for farming operations, giving full opportunity for clearing crop. *Franklin:* Full average. *Issaquena:* Planted late (June 1) owing to overflow lasting ten weeks. *Jefferson:* Not as good as last year. *Jackson:* In fine condition. *Vermillion:* Continued wet weather has reduced condition below the promise of last month.

LOUISIANA.—*Avoyelles:* Has turned out a splendid crop on high lands, on low lands none will be made. *Iberia:* Promises the best for years, but has been much injured by recent rains. *Richland:* Overflow, boll worms, rainy June, and other ills are all against the corn prospects. *De Soto:* Was injured by cold and wet of early spring and will not make a full crop. *East Feliciana:* Generally fine and almost made. *Lincoln:* Prospect good. *Pointe Coupée:* The overflow was so general that corn has fallen from 100 to 25. The worm is so destructive on late corn planted on overflowed land that no estimate can be made, and many will plant again. *Cameron:* A splendid crop is safe. *East Carroll:* Poor; too much rain to work it. *Bienville:* All laid by. *Iberville:* Unusually fine. *St. Charles:* Acreage about the same and condition fine.

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Tensas: Much less in acreage and with few exceptions a poor crop. *Red River:* The overflow reduced acreage.

TEXAS.—*Panola:* Two weeks late. Can not make an average crop. *Wharton:* Generally not up to an average. *Austin:* Injured on flat lands by excessive rains early in season. A great deal in river and creek bottoms was drowned out and planted in cotton. *Hays:* All in full ear. *Mason:* Full average, but now needs rain. *Parker:* Will be short if drought continues. *Montgomery:* Has never recovered from the drenching rains in early spring, and crop will be below an average. *Milam:* Rain needed to finish up corn. Prospect is that it will not come soon enough. *Franklin:* Backward; a bad stand, and is now needing rain. *Henderson:* Will be short for want of rain. *Runnels:* Crop begins to suffer for want of rain. *Grayson:* Are in the midst of a drought; if we do not have rain within ten days crops will be very late. *Gregg:* Late, and at least 10 per cent. short in acreage. Will fall 25 per cent. short of last year's crop. *Bexar:* Made, and a good crop. *Comanche:* Is almost secure; one good rain would make it as good as last year. *Kaufman:* Should we not get rain in next ten days crop will be very short. *Shackelford:* Grasshoppers are doing considerable damage; rain is also needed very much. *Trinity:* Late, on account of incessant rain during early spring. *Bosque:* Past three weeks have been favorable, indications now point to a full crop. *Cooke:* Was badly drowned out by excessive rains through April and first of May; just tasseling and silking, with prospect of not over half a crop. *Guadalupe:* Looks well; 10 per cent. was lost by rats in spring. *Hunt:* The stand was broken by the blackbird last spring, and excessive rains caused backward condition. *Jasper:* Early corn cut off by cold and continued rain. *Marion:* Small, but generally promising. *Hamilton:* Prospect for a crop is very discouraging, owing to the extreme dry spell through which we are passing. *Hill:* Is needing rain. *Brown:* Not as much planted as usual, looks fine, though rather dry for past two weeks. *Camp:* Altogether is not as good as last year, but prospects are now good for rain and farmers are hopeful. *Frio:* Is made; better in some parts of county than others, as wind and rain tore and blew it, preventing cultivation in places. *Karnes:* A better was never made than the present crop promises. *Williamson:* Good. *Leon:* Will be short, but will make enough for home use. *Fisher:* Has suffered from lack of rain-fall for past month; must be relieved within a week if it makes a fair crop. *Taylor:* Suffering badly for rain; will be cut short unless it rains soon. *Kerr:* Present weather favorable. *Crosby:* Hardly any Indian corn raised on the plains; instead we have the rice corn, yellow millo-maize, etc. *Titus:* Suffering because of no rain for past three weeks. *Victoria:* Five per cent. below full average, caused by late cold snap and overflow. *Bastrop:* Damaged by continued wet weather in the spring and consequent lack of cultivation. A great many rats are eating it on the stalk and the black weevil is eating the grain. *Erath:* Was unusually promising up to two weeks ago, but is now suffering for rain and every day is cutting the crop off. *Falls:* Is now suffering from drought and may yet be materially injured. *Hale:* Looks fine; some in tassel and silk. *Haskell:* Is needing rain, as are all other crops. *Nacogdoches:* Very poor generally, owing to three weeks' lack of moisture. Have just had a good rain. *San Augustine:* Too wet in early spring for corn. *Lamar:* With rain in a few days there will be an abundant harvest. *Collin:* The drought which has prevailed for the last six weeks is daily lowering the prospect. It is in the critical stage where without moisture in a short time it will be past redemption. *Coleman:* In good condition, but would now be greatly benefited by more rain. *Denton:* No rain for five weeks; if it does not rain soon, crop will be reduced 50 per cent. *Goliad:* Good, acreage somewhat reduced, as more attention was given to cotton. *Grimes:* Is good, but heavy rains just after it was plowed packed the land and it will suffer if we do not have rain soon. *Jack:* Is being badly damaged from the last three weeks' drought and hot winds. *Johnson:* Clean and well worked, but ten days late. No rain for last twenty-five days and crop is suffering. *Kimble:* Increase due to March freeze which killed the oats in many places. *Rockwall:* Unless we get rain within ten days, crop will

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be greatly damaged. *Lee:* A good crop will be made with a good rain in a few days; without it corn will be short. Is two or three weeks late on account of wet spring. *Medina:* Prospect of a full crop. *Red River:* Needs rain.

ARKANSAS.—*La Fayette:* The late planting is not promising; the bud-worm is doing serious injury. *Calhoun:* Short. *Franklin:* Has not recovered from backset due to cold, wet spring; it is small and low, though some crops where well cultivated and the land favorable are good. *Miller:* Although planted late has pushed forward vigorously, and promises well. *Craighead:* Rather late. *Ashley:* Almost a failure; too much rain prevented proper cultivation. *Columbia:* Not as good as last year; weather too dry *Hempstead:* No rain for about two weeks, which is injuring corn seriously. *Lawrence:* Owing to heavy spring rains acreage was decreased, and owing to dry weather for past eight weeks condition of crop is sorry. *St. Francis:* It rained every week through March, April, and the first half of May; hence the shortage in the area devoted to corn. Not enough will be raised for bread unless we have an exceptionally favorable summer and fall. *Little River:* Early corn in silk; some roasting ears; lower blades commenced firing. *White:* Doing well, but needs rain at present. *Carroll:* Corn forward; acreage less. *Drew:* Will not reach its usual standard this season; wet weather retarded work. *Fulton:* Prospect very good; a little late, but growing finely. *Grant:* With the best possible season, crop will be short at least 25 per cent.; it has rained excessively. *Phillip:* Season entirely too wet for early corn; late corn is now doing very well, but it depends upon the season in August. *Pope:* Needs rain. *Arkansas:* Outlook is very unfavorable, owing to late planting caused by excessive rain-fall in April and May. *Greene:* In good condition. *Yell:* Good; late corn planted where cotton was killed by hail; plenty of rain in June. *Montgomery:* Late, so much had to be replanted; but the dry weather of June is bringing it out; rains partial.

TENNESSEE.—*Carroll:* Very late, owing to extreme wet weather in the spring. *Clay:* Small, but looking well; good farming weather for the past few days. *McMinn:* A drought for five weeks is proving injurious. *Sevier:* Too soon to make any correct estimate as to crop. *Sequatchie:* Looks well. *Dickson:* Late, but growing finely. *Dyer:* Very late, but looks well, and if seasons continue will make an average crop. *Warren:* Suffering for rain; should drought continue a week longer crop will fall short. *Johnson:* Looking very well and has a good stand. *Campbell:* Came up well, but was badly damaged by bud worm; the stand is now not good. *Gibson:* Prospect very good so far. *Grundy:* Quite small and has been damaged at least 6 per cent. by bud worms. *Lauderdale:* Is in grass, or has been plowed where the land was too wet; we had too much rain in May and first part of June; is now dry and very hot; *Bedford:* Owing to excessive rains in May and the early part of June corn has not had the needed cultivation, and being so weedy now causes the prevailing dry weather to affect it more seriously than if it were clean. *Blount:* Kept back somewhat by recent droughts; may come out all right yet. *Cheatham:* Looking well, though needing rain in some localities. *Chester:* A little late, owing to wet spring, and not a full crop. *Hardin:* Looking well; good stand. *Hawkins:* Generally looking fine, though needing rain in some localities. *Knox:* The prevailing drought is affecting crop. *Lawrence:* Acreage increased 10 per cent., but owing to lack of rain in June crop is materially injured; should drought continue can not realize more than three-fourths of a crop. *Lewis:* Looking fine; rather too much rain until the last two weeks. *Shelby:* Got badly in grass, owing to great amount of rain in spring; farmers have nearly cleaned it out, but it suffered from lack of work at the proper time and being worked when too wet. *Tipton:* Continued rains delayed planting and culture; much of our low land—the best in yield an average season—has been finally abandoned; some have planted the third time, as late as June 21; stands 10 per cent. below average, and culture bad. *Wilson:* Prospect not flattering. *Marshall:* Recent fine rains will probably raise the average. *Humphreys:* Acreage is greatly reduced, owing to exceeding low price; the condition is bad, and on river bottoms grasshoppers are devastating the crop. *Maury:* Good rain to-day greatly relieved corn. *Roane:* No

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rain in this immediate vicinity since May 25; without it inside of ten days crop will be a failure.

WEST VIRGINIA—*Brooke:* Growth short as yet, but will probably be up to standard by the middle of the month. *Marion:* The usual quantity could not be planted by reason of continued rainy weather. It is still very wet and the necessary work can not be done in the fields. *Monongalia:* Has not had the necessary amount of cultivation, owing to excessive rain-fall. Has been flooded and has made but little growth on flat lands. Some fields on high ground are of good growth and promise well; others are quite poor. *Pendleton:* Came up well, and except on low lands, where it has been too wet, is in good condition. *Mercer:* Very promising. *Tyler:* Acreage increased; condition not so good as at this season last year owing to excessive rain-fall which has prevented the crop being worked. Some fields have had no cultivation up to June 25. *Kanawha:* Looks well but has not had sufficient culture, owing to excessive rains. *Morgan:* Good where it has been well worked. *Ohio:* Weak and sickly with a poor root. Planting and germination delayed by continued wet weather. *Cabell:* Very small. *Hardy:* Started late in consequence of wet weather; now doing well. *Harrison:* Backward but doing well. *Putnam:* Late and full of weeds; season too wet. *Wetzel:* Backward; wet weather having delayed planting and prevented cultivation. *Preston:* Injured by excessively wet weather. *Mason:* Very late; can not possibly make a full crop. *Logan:* A small green worm, commonly called the "wire worm," has injured some early planted. It cuts the main root, causing the stalk to die. *Marshall:* Could not be sufficiently worked owing to excessive rains.

KENTUCKY.—*Edmonson:* Looks well, but shows the want of working, this having been prevented by excessive rains until within the past ten days. Our farmers are now at work in earnest and the crop will soon be in good condition. *Estill:* The usual acreage could not be planted owing to the wet season, and the crop is later than usual. *Calloway:* Was planted late and has not had sufficient cultivation in consequence of excessive rains. *Lyon:* One month late, but with a favorable season promises to be a good crop. *Greenup:* Generally late; too much rain. *Grant:* Badly smothered in grass and weeds, but this will be remedied as soon as harvest is over. *Woodford:* Full of weeds. *Jefferson:* May was too wet and June too dry for corn. *La Rue:* Has regained ten of its twenty lost days and is doing fairly well. *Lewis:* Has not grown well for several weeks owing to drought and excessive heat. Early planted is better than late. *Simpson:* One month late; favorable weather may bring it to an average. *Shelby:* Backward and poorly worked, owing to excessive rains in the early part of the season. *Fayette:* Much blown down by the heavy winds and rain storms; very weedy. *Fleming:* Looks well. *Hancock:* Late and looks bad. *Rock Castle:* Late in consequence of excessive rains. *Russell:* Was planted late, but owing to the remarkably favorable weather conditions the crop promises well. *Allen:* Suffering from lack of moisture. *Christian:* Late but now growing rapidly. *Ballard:* Two weeks late. *Caldwell:* Too much rain for late planted. *Rowan:* Of small growth in consequence of late planting. *Campbell:* A portion of the crop has not received proper cultivation on account of excessive rains in May and the early part of June. *Clinton:* Late, but is of good color and shows a healthy stalk. *Franklin:* Very promising, but is in need of rain. *Garrard:* Growing rapidly and now having its last plowing, which will leave it in fine shape. *Lincoln:* Rather late but growing finely. Early planted looks well. *McLean:* Late, but in fair condition, and has been well cultivated. Now needs rain badly. *Morgan:* Drowned out on low lands; season too wet. *Nicholas:* Late, but has a good stand and looks promising. *Pike:* Suffering from heavy rains and extreme heat. Much damage has been done by the severe wind storms. *Union:* Promises badly. Was planted late and will not have time to mature fully. *Washington:* A poor prospect; very weedy. *Harlan:* Promises the heaviest yield in several years. *Henderson:* Late.

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OHIO.—*Mahoning:* Doing well, but is small, having been planted late. *Clinton:* Badly damaged by wet weather; the ground is hard and weedy. *Hocking:* Of small growth. *Geauga:* Was planted late, most of it in June. *Huron:* Acreage about the same as last year; the crop is somewhat backward, but is now growing very rapidly. *Perry:* Was planted late, and is now in poor condition owing to the wet weather, which has prevented it being cultivated. *Jackson:* Much of the crop is badly in weeds; weather too wet. *Lorain:* Late, and the growth is short, but if it has proper cultivation may yet reach the average. *Paulding:* About one-half the crop is fully up to the average, but the remainder, being planted late, will require a good season and a late fall to make a full yield. *Vinton:* Weedy on bottom lands in consequence of wet weather. *Wood:* Planted late; some not yet plowed. *Wyandot:* Season too wet. *Adams:* A large part of the crop was planted late and is consequently small, but it is now growing rapidly and doing well; a small amount of damage has been done by the grub and cut worm. *Delaware:* Small, but clean and of good color. *Holmes:* The bulk of the crop was planted late in June, but has made rapid growth. *Athens:* Backward; weather too wet early in the season; is now being damaged by excessive heat and the grub-worm. *Belmont:* Very uneven, planting having continued from May 1 to June 20; wet weather has prevented proper cultivation. *Guernsey:* A full acreage could not be planted by reason of the wet spring, and a portion of that on low lands has been damaged by recent floods. *Hamilton:* Is small and in need of cultivation, but with a favorable s ason may make an average. *Harrison:* Acreage diminished in consequence of wet season, as it could not be planted in time. *Ashtabula:* Was planted late, but is making a fine growth. *Clarke:* Was planted very late in consequence of the rainy season, and unless the season is very favorable it will not mature. *Columbiana:* Very backward. *Medina:* Was planted late, but is now growing rapidly. *Meigs:* Very backward; was planted late and with the ground in poor condition. *Richland:* A good stand, but it is very small; many fields are very grassy and in need of cultivation. *Scioto:* Very small on all low lands owing to excessive rains; is now improving, the hot weather favoring it. *Williams:* Low condition due to the incessant spring rains which retarded planting; not more than 10 per cent. of the crop was planted up to May 25. *Allen:* Short of growth but clean and has a good color. *Brown:* Damaged by the grub-worm and the extremely wet weather of June. *Defiance:* Acreage reduced by the wet season; now improving in condition. *Fulton:* Somewhat uneven, having been planted very late. *Lawrence:* Planted late and has been hurt to some extent by worms. *Madison:* The bulk of the crop was planted late, but the season has been very favorable to growth and plowing. *Morgan:* In poor condition; washed out by heavy rains, and badly in need of cultivation. *Ross:* In bad condition from excessive rain and very small. *Seneca:* Was planted a month late, but the warm days and nights are pushing it ahead; the chief drawback is lack of time for working the crop. *Union:* Backward in consequence of late planting, but is being well worked and is making a good growth. *Van Wert:* Looks exceedingly well; the weather is very favorable. *Preble:* Very uneven; seriously damaged by cut-worms. *Shelby:* In first-class condition on bottom lands; small and backward on clay.

MICHIGAN.—*Iosco:* A very uncertain crop in this locality, owing to late and early frosts. *Ottawa:* Was planted late in consequence of wet weather, and is now below the average. The weather for the past two weeks has been very favorable to growth. *Ionia:* The cut-worm has been very destructive, reducing the average seriously. *Livingston:* Less planted than usual owing to the low prices of last year, and the cut-worms have destroyed much of that. Some fields have been plowed up and put in beans and buckwheat; a large part of that left will not make a half crop. *Bay:* Was planted late, but has made wonderful growth. Slight damage from the wire-worm and cut-worm. *Calhoun:* Planted ten days late, and has not reached its average for the season. *Washtenaw:* Greatly injured on sod-ground by the cut-worm, some fields being wholly cut out, others suffering only a little. *Clinton:* Considerably damaged by cut-worms. *Kalamazoo:* Now coming on finely, with plenty of rain and a high

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temperature. *Mason:* Backward but in a healthy condition and growing finely. *St. Clair:* Almost a total failure, in consequence of cold, wet weather. The stand is very short. A similar condition at this date has never been known to the "oldest inhabitant." *Cass:* The hot weather of June has sent the crop booming beyond all precedent. *Monroe:* A good stand and growing splendidly. *Arenac:* Making a fine growth under the extremely favorable weather conditions.

INDIANA.—*Wabash:* Small for the season and very weedy. *Scott:* Could not be cultivated, owing to excess of rain. *Jay:* In good condition. *Madison:* Is of good color, well-grown, and clear of weeds. *De Kalb:* Small and uneven; much was planted late. *Knox:* Looks well, but is full of weeds, having been neglected during wheat harvest. *Morgan:* Almost a full average. *Jasper:* Good on high ground; poor on low lands. *Kosciusko:* Very uneven; extra good on sandy soil; poor on clay lands. *St. Joseph:* A good stand, and is making rapid growth. *Whitley:* Doing well. *Shelby:* Doing well. *Decatur:* A good stand, and has been fairly well worked. *Floyd:* A reduction of 20 per cent. in acreage, owing to the wet season which prevented planting. *Jefferson:* Good on dry soil; poor on wet. *Henry:* The white grub is doing considerable damage. *Montgomery:* Has made a marvelous growth within the past two weeks, the weather being exceptionally favorable. *Steuben:* Was planted late; is small, but clean and of good color; prospect good. *Sullivan:* Injured by excess of rain. *Vermillion:* Promise of a big crop. *Clinton:* Injured by continued heavy rains, but the extremely hot weather of the past two weeks has sent it forward with a vigor seldom equaled. *Lagrange:* Late and drowned out in some localities. *Lake:* Good on high, well-drained lands; scalded and yellow on wet lands, and in many cases very weedy. *Marshall:* Greatly improved by the favorable weather of the past few days. *Union:* Promise of an abundant crop. *Bartholomew:* Conditions very favorable and promise good for a fine crop. *Blackford:* Damaged by wet weather and foul with weeds, but the past week of dry weather has worked a wonderful improvement. *Clay:* Kept back by wet weather. *Dubois:* Small; the outlook poor; weather too dry. *Fayette:* A splendid prospect. *Franklin:* The ground badly baked by rains early in the season and after planting. *Hamilton:* Has made a tremendous advance within the past two weeks, the weather being very hot with abundant rains. *Hancock:* Was never in better condition; has made more than usual growth. *Howard:* Has made great improvement within the past two weeks. *Marion:* Generally well cultivated and has come forward with almost unprecedented rapidity; there is some complaint of grub worm. *Posey:* Backward; much low ground not planted. *Switzerland:* Backward and in need of work in consequence of wet weather. *Tipton:* An immense growth. *Vanderburgh:* Late; acreage decreased in consequence of the wet spring. *Ohio:* Very small; the dry weather of the past few weeks following the long wet spell, left the ground in bad condition; the crop is far behind the average. *Starke:* Planted late, but the high temperature and rains of recent date have brought it forward and it is growing rapidly. *Perry:* Later than usual but in healthy condition. *Orange:* Fine where it has had proper cultivation.

ILLINOIS.—*McHenry:* Making a very rapid growth. *Clinton:* Has been well worked; is now in need of rain. *Jackson:* Almost a failure owing to dry weather, and excessive heat. The ground could not be well worked in consequence of the wet spring, and lack of freezing weather during the winter. *Morgan:* Growing well and is comparatively clean. *Williamson:* Late and of small growth. *Green:* Never looked better at this time of year. *Tazwell:* Growing finely and is generally clear of weeds. There is a good prospect for a big crop. *Union:* Small in consequence of the very dry weather which has prevailed during the past month. *Will:* In fair condition. *Coles:* Never looked better. Prospect extremely flattering. *Schuyler:* The outlook for a full crop is good. *Alexander:* All right as yet, but needs rain. *Carroll:* Making a rapid growth, but is very weedy. *Champaign:* Further advanced than at any time within twenty years at this season. The heat and wet weather have caused a tremendous growth. *Boone:* Looks well and is growing rapidly, but weeds are getting the best of it in some places, owing to the heavy rains. *Fulton:* Hot weather

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and abundant rains have brought the crop above the average. *Knox:* Acreage increased 10 per cent. over last year, and the condition is 10 per cent. better also. *Shelby:* Clear of weeds and of a healthy color. Prospect of a heavy crop. *Vermilion:* Unusually good. *Massac:* Planting delayed by wet weather, making the crop late. *St. Clair:* Suffering from lack of moisture. *Henry:* Seasonable showers with an exceedingly high temperature have worked wonders with the crops since June 1. *Calhoun:* Has not yet seriously suffered from the prevailing drought, but in ten days it will begin to shoot and tassel. *De Witt:* Never looked better at this date. Fields generally clean. Rain now needed. *Livingston:* Has made a rapid growth lately. Has not had sufficient cultivation in some localities, owing to excessive rains. *Macon:* Fully up to average. *Madison:* In fair condition, but in need of rain. *Marion:* Needs rain, and if it does not soon arrive the crop will be seriously damaged. *Wabash:* Suffering from dry weather and the ravages of the chinch-bug. *White:* Generally in poor condition owing to late planting and poor condition of soil. A few favored fields look well. *Warren:* Equal to any crop we have had in many years. *Adams:* Clean and doing well. *Lee:* Making a rapid growth, the weeds doing likewise, but our farmers are making diligent efforts to conquer the latter. *Peoria:* The most luxuriant growth in twenty years. *Stephenson:* A large growth but weedy. But for the fact of its having been washed out and covered up by floods in a portion of the county, the average could be very high. *Bond:* Prospect very discouraging. Weather hot and dry. Unless rain falls within a few days the crop will be ruined. *Cook:* Weather conditions favorable and prospect good. *Edwards:* In fair condition. Weather too dry. *Gallatin:* In a critical condition, owing to severe drought. *Grundy:* In a weedy condition, owing to excessive rains in June. *Kankakee:* Never so "spotted" as at present. A good average on high lands, poor on low lands. *Kendall:* Quite uneven. Excessive rains have prevented proper cultivation, and the crop is weedy, but now growing rapidly and the prospect is good. *Lake:* Looks fine and is growing fast. Soil in good condition. *Logan:* A full average. *Pike:* Doing well. Is clean and well cultivated. *Menard:* Doing well. *Pope:* Late but growing well. *Wayne:* Part of the crop is not a full stand or the condition would be above the average. *Winnebago:* A heavy rain storm of recent date has done some damage and will probably discount the crop about 3 per cent. It is now in fine condition. *Saline:* Outlook poor. Not sufficient rain in some localities, an excess in others. *Clark:* Weather favorable, crop good. *Crawford:* Planted late owing to excessive rains, and is now below the average. *Du Page:* Never in finer condition at this season. *La Salle:* About 10 per cent. of the crop drowned out by the excessive rains during the middle of June.

WISCONSIN.—*Rock:* The grub is damaging sod corn. With less rain the prospect is for a fair crop. *Sauk:* Very weedy; the ground too wet for cultivation. Cut-worms have thinned many pieces. *Marquette:* In good condition. *Racine:* Pushed rapidly ahead by the recent hot weather. Somewhat damaged by cut-worms on low grounds. *Manitowoc:* Only grown in very small quantities. *Richland:* Planting delayed by the wet season. Now looks well on dry, high lands; much washed out on low lands. *Walworth:* Fairly promising on uplands; injured by excessive rains where the land lies low. Cultivation has been very difficult, and weeds are getting the mastery. The recent warm weather has been very beneficial to the crop. *Waukesha:* Growing vigorously. *Winnebago:* Is late but promises well on high lands. The condition of the crop on low lands reduces general average materially. *Brown:* Backward until the past few days; the extremely hot weather has brought it forward rapidly. *Buffalo:* Somewhat damaged on low lands by excessive rains. *Clark:* Damaged somewhat by heavy rains early in June, but now doing well. *Dodge:* So brittle from rapid growth that high winds would do great damage should they occur. *Dunn:* Injured by cut-worms early in the spring. *Monroe:* Acreage below the average in consequence of the cold, wet spring. Growth rather small. *Oconto:* Backward in consequence of cold weather during the early part of June and late rains, which interfered with cultivation. *La Fayette:* The crop has passed through many vicissi-

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tudes, the weather having been extremely variable. It is now having a boom in consequence of the extreme heat.

MINNESOTA.—*Carver:* Small, owing to cool May, but growing fast and has a good stand. *Isanti:* Booming. *Wadena:* Low condition is due to damage by cut-worms, which are more numerous than ever before. *Washington:* Growing finely. *Fillmore:* Advanced by remarkably hot weather recently; damaged by cut-worms on sod-land, especially clover sod. *Freeborn:* Rather backward, owing to cold weather in May, but now improving. *Le Sueur:* Looks well, but is weedy from excessive rain. *Morrison:* Late planted, but doing well now. *Ramsey:* Hurt by cut-worms on sod; late but looks well. *Todd:* Never better, but area is small. *Winona:* Not backward, but weedy. *Wright:* Immense. *Redwood:* Very backward, but stand good. *Benton:* Looks well where kept clean.

IOWA.—*Marshall:* Advanced wonderfully by unusual hot weather in the last week and bids fair to be an average crop with favorable conditions from now on, though corn ground is bound to be foul, which will affect it somewhat. *Page:* Not quite an average; ten days late from the drought in April and May. *Palo Alto:* Looking and growing well, but is late from wet and cold earlier in spring. *Winnebago:* Advanced by recent warm weather. *Wright:* Area slightly increased; backward until ten days ago, since when has made wonderful growth; if it continues thus ten days more it will be No. 1. *Guthrie:* Made rapid growth in June owing to warm and wet weather. *Hamilton:* Made a wonderful growth under recent rains. *Cherokee:* Made up for lost time in two last weeks, which were hot and dry. *Washington:* Doing splendidly lately. *Wapello:* Season was all that could be desired; greatly improved by recent rains. *Fremont:* About two weeks later than last year, but rapidly improving owing to recent warm, wet weather. *Greene:* Farmers are working like beavers to subdue weeds; last ten days were favorable for work and growth; corn is fast overcoming its lack of growth during extremely wet weather early in June. *Hardin:* Quite weedy because of rain, but if present good weather continues a few days more the crop will be made clean and soon be 100. *Howard:* Washed badly in some places, otherwise the stand is very good and the present warmth makes it grow rapidly; it is also being well cultivated so far as the dry spells permit. *Lee:* Doing well. *Osceola:* Late from drought in the spring; the last week of extreme heat "boomed" it right along. *Bremer:* Grew very fast during the past week. *Clarke:* Looks fine; made stupendous growth during the very warm June, and did not suffer from drought. *Sac:* Short, but growing fast in this moist, hot weather. *Franklin:* Backward from cold, dry spring. Many fields were replanted. Cut-worms took nearly all the early planted on sod, then came heavy rains, making the ground too wet to work, and fields got grassy. Farmers are doing their best to kill weeds. *Lucas:* Suffering from drought. Ground is now dry and parched. *Van Buren:* Doing well. *Clinton:* Some very weedy from excess of rain in June which prevented cultivation. *Carroll:* Very small yet. Much good weather will be necessary to insure a crop. *Scott:* Not so clean as usual, owing to excessive rain. Bottom lands suffered most. With cessation of rain farmers will be able to catch up. *Adair:* Last week in June was warm and wet, and corn is getting up close to the "band wagon." *Allamakee:* Seems to be as far advanced as at this time last year. Some fields grassy, but considering frequent rains and difficulty of working the crop is favorable. Hill lands suffered greatly from washouts, and low lands from overflows. Damage is the greatest ever known before in ravines and on creek bottoms. *Appanoose:* Season exactly right for corn. *Buchanan:* A week late because of wet weather; poor stand, and not well cultivated. Good weather may improve it, but it must be a light crop. *Cerro Gordo:* More weedy than usual, because of rain. *Dubuque:* Ten days late until June 20, when heavy rains came. Last week in June was the hottest in ten years, and corn grew from 4 to 6 inches in twenty-four hours, and it now looks well. *Jones:* Too wet. Rain prevented cultivation on low land, consequently corn is late and very weedy. *Linn:* Not as forward nor as clean as usual. *Louisa:* Doing well, but needs rain. *Monroe:* Abundant

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rains; growing finely. *Mahaska:* Very backward until June 15, but catching up fast and doingly finely.

MISSOURI.—*Phelps:* Will suffer unless rain soon comes. *Pettis:* A good stand, thoroughly cultivated, clean and ground in fine condition, but it begins to need rain. *Shannon:* Given a fine start by recent showers. *Sullivan:* Looks very fine; universally clean. Fine prospect for a good crop. *St. Louis:* Affected by drought in June. *Washington:* Looks well, but is small. *Grundy:* Beginning to feel the drought. *Barry:* Condition reduced by wet, cold, and backward spring. *Jasper:* Too cool until two weeks ago. With good tillage we may have a fair crop. *Crawford:* Looks well. Well worked generally, but needs rain now. *Pulaski:* Suffering from drought. *Wright:* Doing fairly well. *Camden:* Suffering from drought and twisting. *Knox:* Looks well, notwithstanding the severe drought. *Holt:* "Curling," and a few days more without rain must cause "firing," which would be irreparable injury. *Cape Girardeau:* The great amount of rain in spring prevented the planting of a large crop, and the lateness of the season makes it small for this time of year. *Iron:* Needs rain. *Monroe:* Clean and well cultivated, but not an average; something sapping roots. *Texas:* Average. *Christian:* Clean, though small, and growing finely. *Putnam:* Good stand, well worked, generally free from weeds, and never in a more favorable condition for a bountiful harvest. *Lewis:* Doing well, and remarkably free from weeds. *Pemiscot:* Several thousand acres were planted in June. Looks well considering the disadvantages under which we labored. In many fields it looks thrifty. Crop depends on lateness of frost next fall. *Dallas:* Small, but looks well; is worked well and is clean. *Mississippi:* Late planted, owing to continuous spring rain and area shortened. Condition reduced by drought and heat. *Webster:* Curled by recent drying southwest winds. *Ballinger:* Looks fairly well yet, but unless rain comes within a few days it will be ruined almost. *Howard:* No rain in twenty-six days, mercury 90°–100° in the shade. If this drought continues a short time longer the corn crop will be very short. It is now in good condition, but is suffering for rain. *Hickory:* Short and needs rain very much, but is well cleaned, and with timely rains will be a good yield. *St. Charles:* Late; many fields not cultivated the first time; getting weedy and the ground is hard and dry; unless rain comes soon the crop will be very short. *Saline:* In good condition; clean and good stand. *Caldwell:* Clean and fine, and with rain in two weeks will be a large crop. *Cole:* In good condition so far as tillage is concerned, but getting a little dry. *Johnson:* Doing well notwithstanding the drought. *Macon:* Looks well; small, but well cultivated. *Lincoln:* Stunted by drought last two weeks in June, but all clean and ready for growth when rain comes. *La Fayette:* Looks very fine, but needs rain. *Madison:* Present condition not good, it having been planted late because of wet weather, and is now making slow growth on account of drought. *Perry:* Very small, but a good stand, and with fair season will make a fair crop. *Barton:* Good, but not so far advanced as this time last year. *Cedar:* Very fine, large, and well worked. *Chariton:* Needs rain very much. *Cooper:* Too dry for corn. *Daviess:* Very clean and looks well; but drought threatens it. *Dunklin:* Good, but late, and now needs rain. *Dade:* Very dry; early rain will make a good crop. *Gentry:* Without rain soon it will be marked greatly lower in next report. *Maries:* Early planted was slow in coming up, but is a good stand. Considerably hurt by wire-worms and crows; cultivation is good, but a very hot and dry June was very hard on all uplands, and prospect is very unfavorable for a crop. *Ozark:* Healthy and fine.

KANSAS.—*Elk:* Good prospects; needs rain; weather quite hot and blades beginning to cure during the heat of the day. *Linn:* A little late, but growing fast. Will soon need rain. *Sumner:* Must have rain soon to amount to anything. *Meade:* Needs rain, but is yet safe. *Marshall:* Rain came in time to save corn, which will soon be an average. *Lane:* Looks well but needs rain. *Osage:* A continuation of the present hot and dry weather another week will reduce corn 25 per cent. *Rawlins:* Helped by rain June 28, and we may make some corn. *Cowley:* Prospects were never better, but begins to need rain. *Clark:* Somewhat smaller

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than usual but very promising; now needs rain. *Montgomery:* Later than usual, but clear of weeds and soil is mellow but dry; condition will fall each day without rain. *Cherokee:* In good condition but begins to need rain. *Lincoln:* Needs rain very much. *Morton:* Very light June rains caused late corn to come up unevenly; early planted corn was damaged by cool weather. *Dickinson:* Good stand and clean. Rain needed to secure a crop. *Leavenworth:* On newly turned meadow sod it is affected by worms. They eat the heart of the stalk when the corn is from 6 to 10 inches high. They are shaped like cut-worms and are the same color. They destroyed 10 acres planted the second time. *Rooks:* Looks well but will need rain soon. *Ellsworth:* Looks fine. *Sherman:* Good color and fair size and stands the drought well. *Ford:* Early corn is tasseling and in silk. *Washington:* Prospect especially good owing to rains June 27, 28, 29. *Finney:* Late. *Franklin:* Much replanted. Beginning to cure from drought. *Harvey:* We had too much listed corn. It grew very slow in early spring; consequently it was not well cultivated. Corn planted is much better. *Labette:* Injured somewhat by hot winds the past week. Will be a good crop with rain soon, without it corn will be much damaged.

NEBRASKA.—*Douglas:* Never better; some fields are a little weedy, but stand is good. *Hayes:* Season favorable. *Buffalo:* Stands the severe drought very well. *Furnas:* Stands the drought better than anything else, but begins to curl considerably. *Seward:* A little backward. *Saunders:* A little late, but doing well. *Gosper:* Large acreage, but condition low, owing to drought. Come up uneven and stand is not so good. *Keya Paha:* Hurt somewhat by heavy rains, but on the whole never looked so well as now. *Sioux:* Some withstanding the drought, but much is ruined. *Blaine.* Advanced by warm and wet weather recently. *Lancaster:* Very weedy, and much of it very backward. Frequent rains and heat delay work. *Washington:* Depreciated 30 per cent. by wind, rain, and hail. Some fields look fair, others are much injured. *Burt:* Damaged by drought in April and May, and later by the excessive wet in June; some fields being entirely abandoned and others are very foul. Unless the future weather be very favorable the corn crop will be the shortest in years. *Custer:* Gained wonderfully in last ten days. *Frontier:* Making a splendid growth. *Johnson:* Looks fairly well. *Lincoln:* Held out fairly under hot winds from June 1 to 28, when local showers came. *Madison:* Badly washed by heavy rains, also considerably damaged by cut-worms; especially listed corn. *Nuckalls:* Made good growth in June and promises to be a large crop. *Platte:* Greatly improved by rain June 29. From 1½ to 3 feet high and mostly clean. *Red Willow:* Splendid and clean. *Webster:* Improved by recent rains and looks well. *York:* Backward from dry spring, but doing finely under the abundance of moisture. *Dundy:* Relieved by generous rains June 28–29. Had suffered from long drought. *Chase:* Excellent condition. *Harlan:* Still looks well, and with good weather will be a good crop. *Wheeler:* Late, from dry winds and drought.

CALIFORNIA.—*Santa Barbara:* Could not be planted in full; land too wet at first, then too dry and lumpy. What grew looks well. *Amador:* Increase in area is due to lessened acreage in wheat consequent upon continued rains in winter.

COLORADO.—*Douglas:* Not injured much yet by the severe drought.

SOUTH DAKOTA.—*Morton:* Too wet for it. *Walworth:* Fine stand but small because of late spring. *Hanson:* Somewhat thin in places from ravages of cut-worms. Growing fast and promises a good yield. *Faulk:* Considerably damaged locally by cut-worms. *Hutchinson:* Considerably damaged by cut-worms (fall plowing exempt). *Edmunds:* Small patches being injured by cut-worms. *Miner:* Entire fields were destroyed by cut-worms and all taken in some localities. *Hand:* Doing well since cut-worm left. They took a good many acres that were put to millet. *Bon Homme:* Never looked better. *Brule:* Almost a failure from cut-worms. Many planted corn three times. *Charles Mix:* Too dry in some sections and corn was damaged. Cut-worms took first planting and in many cases the second planting in these parts. There is a poor stand of late corn. In the southern portion of the county the crop is above normal

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growth with a good stand. *Jerauld:* Large increase in area, but cut worms destroyed a large part of the crop. In some cases entire fields were taken the second time. *Kingsbury:* Some fields hurt more or less by cut-worms, but the crop is generally good. *Lincoln:* Entire fields were taken by cut-worms. Some replanted with corn and some with flax.

WHEAT.

The returns show that winter wheat, on the 1st of July, was harvested except in the higher latitudes of its growth. But little had been threshed in the Western States, and its yield and quality are not so apparent as when it shall be handled and weighed. It is evident that it will be relatively a defective crop. It has nearly everywhere been seen under more or less adverse conditions since the freezing weather of March, which was all the more injurious in consequence of the mildness of the previous winter. The loss of area, and additional loss by depreciated condition, must place the winter wheat of 1890 below an average of a series of years, though the yield per acre, counted on the acreage harvested, will be higher than in some years of disaster that have occasionally overtaken this crop, notably in 1881, and possibly somewhat higher that in 1888.

The present report shows some advance in condition in the heart of the winter-wheat belt, in Michigan, Indiana, Illinois, and Kansas, indicates a slight decline in the eastern portion of the Ohio Valley, a little reduction on the Pacific coast, and a very precipitous fall in the Southern States. The general average is 76.2, against 78.1 last month, and the reduction is mostly in the non-commercial districts—the commercial supply States, taken together, making nearly the same average as in June.

The returns from the South are very unfavorable, indicating scarcely more than half of a full crop. The vitality of the crop was greatly impaired by March frosts. The *aphis* has been very prevalent on the Atlantic coast, and saturating rains have been very injurious. These causes have produced a shortening of the straw and shriveling of the grain, with an unusual prevalence of rust. The fly and chinch-bug appeared in some districts. After the injury from frosts that followed the lush growth of a mild winter, the crop fell an easy prey to all the plagues that infest it.

A heavy reduction in condition during June is reported in Kentucky. Yield and quality, as tested by the thresher, are worse than was anticipated, the plants thin on the ground, the heads light, the berry shriveled. Ohio and West Virginia make slight reductions, the winter-killed areas disappointing expectations, while the unscathed fields yield sound and plump grain.

In Michigan, Indiana, Illinois, and Kansas the least injured fields manifestly improved during the last month, and now promise better results in threshing, while the badly winter-killed were worse blighted

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and more chaffy than was expected. The average was slightly advanced in all these States. The wide range of local condition increases the difficulty in reporting a true average, which may be more closely approximated after threshing. In some counties the grain is reported better than was anticipated. Some counties in Kansas claim 16 bushels, some 20 per acre, and one reports the best crop ever grown in quality and yield, while others admit damage and disappointment.

The spring-wheat average has advanced from 91.3 to 94.4. The averages of the principal States are as follows: Wisconsin, 93; Minnesota, 98; Iowa, 95; Nebraska, 88; the Dakotas, 94; Montana, 93; Colorado, 90; Washington, 93. Taken together, the winter and spring wheat make an average of 82.1, instead of 82.4 last month.

The growth is rank in Minnesota, and the plant is tender, exciting fears that the prevalence of high temperature may cause blight. The abnormal growth causes liability to lodging. Chinch-bugs begin to threaten certain districts. There are indications of rust in parts of Iowa, and blight is feared. Some reports of appearance of chinch-bugs are received. A deficiency of moisture is indicated in Western Nebraska, which threatens to reduce the yield. In the Dakotas there is much complaint of slow germination on account of drought, which causes fields to look uneven. There are here some indications of rust and blight.

OATS.

There has been a sudden and precipitous decline in the condition of oats during the past month, a drop of 8 points, or from 89.8 to 81.6. The fall has been most severe in the States of the Atlantic coast and in portions of the Ohio Valley, where the State averages are now very low. In nearly twenty-five years of crop reporting no July report of this crop has ever been so low, the nearest approach being in 1887, when the average was 85.9.

The returns of county correspondents in all States between the Alleghany Mountains and the Atlantic Ocean, from New England to Georgia, are remarkable for the uniformity with which they state the cause of the sudden decline of condition. During the close of May and early in June blight, which was frequently reported as "rust," appeared almost at the same time in the oat-fields of this whole section, deadening the blades, shortening the straw, and suddenly changing a favorable prospect into one of almost universal disappointment. A few correspondents in different localities are inclined to the belief that the damage has been overestimated, the judgment of farmers being influenced by the extent of the disaster, claiming to see indications of improvement with the approach of hot, dry weather, but a much larger number from every section of this great district declare that the damage is beyond repair, and that many fields if cut at all will be cut for hay only.

In Pennsylvania especially the tenor of reports is very discouraging,

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the damage from blight being supplemented by injury from the *aphis* or plant-louse, flies, worms, and other insect enemies. The decline in condition in this State was 26 points during the month, and in some other States of the district mentioned it was scarcely less. Condition in the cotton-growing States materially declined during the month, mainly owing to the attack of blight at time of harvest. Condition in this section has not been high at any time during the history of the present crop. The frosts and freezing weather of March injured plants severely in many localities, they being unusually well advanced at that date on account of the mild weather of the late winter, and the season has not been sufficiently favorable since to overcome the damage done. Growth was poor, straw short, and now that the harvest is largely over it is seen that the grain was not less affected. Tennessee and Kentucky show the heaviest fall during the month, and their present averages, 53 and 37 respectively, are among the lowest ever reported by any State for a staple crop, and if not unduly depressed by the disappointment naturally felt by producers, the crops will make one of the smallest yields ever recorded.

In Tennessee the decline is almost entirely attributed to the sudden appearance of blight, believed by correspondents to be the result of spring freezes and an unusual amount of rain-fall during the early season. An observation by the correspondent for Carroll county in connection with his report is perhaps not too strong a sample of the notes from throughout the State. He says: "Oats rusted, and in many instances died to the ground before they were 15 inches high. Some fields are now putting out again and a small crop may be made." In Kentucky the very low condition is the result of a combination of unfavorable circumstances; excessive moisture in the spring, attack of the *aphis*, and wide-spread appearance of blight. The injury caused by the *aphis* is a very material factor among the causes reducing condition. Some counties report it as entirely destroying the crop, while in many others it almost ruined what was otherwise a fair prospect. The decline during the month in Ohio and Indiana is scarcely less marked, the damage being the result of a vigorous and combined attack of the *aphis* and blight. Michigan alone of the States of this section still reports high condition, the average (97), being practically the same as in June. No mention of blight or *aphis* is made from any county, the only unfavorable conditions arising from heavy rains and consequent lodging in some localities. Short straw, premature heading, rusted blades, and generally unfavorable conditions are reported from Indiana, the *aphis* figuring prominently in the damage. Illinois reports are more varied, ranging from comparative failure to best possible condition, though the unfavorable returns predominate, the damage being the result of the same causes operating in other adjoining States.

The general prevalence of blight in a form unmitigated in its severity, is doubtless largely due to the enfeebling of the plant by spring freezes and plant-lice, the latter in the West and both in the South.

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In pleasing contrast with the succession of gloomy returns already noted are the reports from the States of the great Northwest. There the averages of condition are reported materially higher than last month, Minnesota leading the increase with six points, and Dakota closely following with five. Growth is rank, straw heavy, and the main danger is from possible lodging. Should the harvest be ended without serious storms there is every prospect of large yields. The aggregate crop grown in this section is large, and had not the prospect here been so well maintained the decline in the general average for the whole country would have been much greater. On the Pacific coast and in the Rocky Mountain States condition has been fairly well maintained, promising a medium yield.

In order that a clear idea of the remarkable decline during the past month may be obtained, the following statement of the June and July condition in States producing over 10,000,000 bushels is presented:

States.	June.	July.	States.	June.	July.
New York	88	75	Wisconsin	95	93
Pennsylvania	93	67	Minnesota	90	96
Texas	77	68	Iowa	93	95
Ohio	90	75	Missouri	88	62
Michigan	96	97	Kansas	80	74
Indiana	95	75	Nebraska	88	76
Illinois	90	82	The Dakotas	90	96

MINOR CEREALS.

Rye.—The condition of winter rye is virtually the same as at last report, the general average being 92.0. This is the lowest July average reported since 1887, and is nearly five points lower than last year, but if maintained throughout the growing season a yield above the average might be reasonably expected. In the spring-wheat States condition averages 92.9, or slightly better than the winter grain.

Barley.—The condition of barley has improved somewhat during the past month, the general average advancing from 86.4 in June to 88.3 for the present return. The prospect is best in the States of the Ohio Valley and in the Rocky Mountain region, the figures ranging from 90 to 99. It is poorer in the Eastern and Middle States and in Missouri-Kansas, and Nebraska, where the season has not been wholly favorable. In the States of principal production the averages are: New York, 80; Wisconsin, 90; Minnesota, 98; Iowa, 99; Nebraska, 74; California, 85; the Dakotas, 90.

COTTON.

The report shows improvement in the status of cotton, the average of condition having advanced from 88.8 to 91.4, since the previous returns.

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There was generally an excess of moisture until about the 10th of June, with fine weather since, giving opportunity for destruction of grass and for thorough cultivation. On the Atlantic coast the crop is generally well advanced, while it is late in the southwest, where planting was delayed by overflows and by heavy rains. That which was planted early began to bloom from the 15th to the 25th, and in the southwest some bolls are reported as early as the 20th.

While the plant is in various stages of advancement, from the wide range of seeding, it is now almost invariably in full vigor of growth, of good color and high promise, very free from rust, and free from worms except the weak invasions of first broods in the more southern belt.

The present average of July condition has been exceeded only once in the last five years. It is stated as follows, by States: Virginia, 92; North Carolina, 95; South Carolina, 95; Georgia, 95; Florida, 91; Alabama, 95; Mississippi, 89; Louisiana, 86; Texas, 89; Arkansas, 89; Tennessee, 93.

Nearly throughout the cotton area two or three weeks of dry weather is reported, but scarcely any injury from drought. Since the 1st of July heavy rains have been reported on the Atlantic coast.

The correspondent representing *Wilson* County, North Carolina, claims that the cost of cultivation has been less than usual, and that the plant is better developed than at this date for ten years. In *Cabarrus* blooms came earlier than in any season since 1880. An experience of forty years, according to the reporter for *Orangeburg*, North Carolina, has never known lice to be so destructive to the stand and growth of cotton. In *Coffee* County, Georgia, that which germinated before the April and May drought is in superior condition, while that sown later is small but healthy. In *Colquitt* continuous rains are drowning cotton, which is dying out in some areas. In some counties in Alabama drought is indicated, in others excess of moisture, but no very serious consequences have as yet followed either condition. The reporter for *Clarke*, Alabama, corroborates other reports in saying that cotton planted in March and well cultivated is well grown and full of blooms and squares, while late plantings are small though growing well. On the contrary, there are areas in Mississippi and more western States, where the soil was wet and cold, in which poor stands and defective development appear in the fields first planted. In *Leake*, Mississippi, for instance, one-tenth of the area planted has been abandoned, grass and weeds having taken possession of the fields. Excess of moisture has been the bane of cotton-growing in Mississippi this season. In parts of Texas the cry of drought is becoming somewhat general, but fears for the future are more potent than regrets for any losses already suffered.

There is mention of the boll-worm in a few cases, on the Gulf Coast, and several references to caterpillars in Texas, and to much annoyance from cut-worms, but loss of capacity for production is not yet apparent in any considerable degree.

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POTATOES.

The preliminary returns of acreage make the area devoted to this crop practically the same as last year. In most States there is an increase perhaps equal to the annual increment of population, but the falling off in the acreage of the States of the Ohio Valley is sufficient to offset this increase for the whole country. West of the Mississippi River there is increase in almost every State, keeping pace with the rapid extension of settlement and cultivated area, ranging from a nominal advance in Missouri and Kansas to 7 per cent. in the Dakotas and 10 per cent. in Wyoming. The cotton States record an increase of about 1 per cent. while in the Eastern and Middle States there is little change from the acreage of last year, except in New York, where excessive rains and other unfavorable meteorological conditions contributed to reduce the area by three points. The unusual rain-fall throughout the Ohio Valley at date of planting, prevented the putting in of a full crop, and there is frequent complaint of failure to secure a stand on account of rotting in the ground.

The first return of comparative acreage, which is subject to some modifications by the results of other tests of acreage employed each year, makes the average for the country 100.2. In but two years since 1880 has the July return shown so small an increase, and last year the advance was nearly 5 per cent. over the acreage of 1888.

The same causes which have prevented the usual increase of area have contributed to the depressed report of general condition. This crop is peculiar in that the first report of condition is always the highest of the season, and invariably closely approaching the standard of comparison, 100. The reason is easily appreciated. Meteorological conditons are almost always favorable at time of planting and when growth first begins; the damage from drought, blight and insect enemies is always met with later in the season. During more than twenty years of crop reporting by the Department, condition at time of harvest was higher than at the first report but one time, 1875; in all other years there has been a falling off, ranging from one or two points to thirty or more, according to the season after growth began.

The reported condition for the present month, as made up from county returns consolidated by States, is 91.7, with 100 representing a perfect unimpaired stand. This is the lowest condition ever reported at this date, the nearest approach being in 1887 when the average was 93.2. In New York and New England, where something like one-fourth of last year's crop was grown, condition for the section is somewhat higher than the average for the country. In most districts there was too much moisture at date of planting, and in a few localities vines, which have made a luxuriant growth, are beginning to suffer from dry weather prevailing at date of the report. No indications of blight are noticed, and the absence of the Colorado beetle is commented upon. Along the At-

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lantic coast from New Jersey to Georgia condition is high, and complaints of late growth, and injury from unfavorable weather are but seldom made. The usual burden of reports is fine promise, especially of the early varieties. In the Gulf States the early crop in many sections has been gathered, the return being unusually satisfactory. Dry weather prevailing at the date of the report was causing some apprehension, and in low lands reached by the spring overflow of the great water-courses the small area planted was somewhat damaged. Occasionally the earliest crop was caught and injured by the frost and cold weather of March, and in parts of Texas the cool spring was not favorable to the crop.

Drought of ten days or two weeks standing has affected the late crop in Tennessee, though the returns from the early planted were satisfactory. Excess of moisture and cool weather at time of planting make the Kentucky crop late, while in Ohio condition is reported low as a result of similar unfavorable meteorological conditions during the season for planting and early growth. Bugs are reported unusually numerous in portions of Michigan and Indiana, though condition has not been seriously damaged. In Dubois County, Ind., complaint of a blight which kills the vines while the tubers are immature is made, while in Posey County it is thought that poor growth is accounted for by the fact that seed potatoes sprouted badly before planting. Missouri, Kansas, and Nebraska return very poor condition, the low State averages resulting from injury by drought in different localities, though some counties of these States report a very favorable prospect. The development of potato growing in the Rocky Mountain region has been very rapid during the past few years, the crop being one of the most important grown there. Present condition throughout this region is now high, except in Colorado, where from local causes it is reduced to 82.

FRUIT.

The returns indicate the shortest fruit crop of recent years, both for apples and peaches, especially poor in States contributing to the commercial supply. Last month it was remarked that poor condition of the fruit crop in one month could not be followed by improved averages in another, no matter how favorable the intervening season might be. It was then intimated that the July returns might naturally be expected to be still lower than the depressed returns of June. Such is the case. The continued dropping of immature fruit in many States has made the prospect still more discouraging, and the advance of the season in the more northern districts, where averages were then high, has developed the extent of damage suffered from cold, wet weather of spring. Condition is still best in New England, but it has materially declined during the month, and as the season advances the prospect grows worse.

On the Pacific coast there is promise of a fair yield, but throughout

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the rest of the country the indications point to an apple crop much below the average.

Correspondents in New Jersey, Delaware, and Maryland, where a large proportion of the peach supply is grown, report a practical failure of the crop.

GRASSES.

The status of all grasses is almost uniformly good, the condition of pastures being especially high. The season has been in the main favorable, growth beginning early on account of the mildness of the winter, and rain-fall generally abundant. There is some local complaint of drought, and some areas upon which clover suffered from winter killing, but the general averages are high. Pasture is reported at 96.4, clover at 94, and timothy at 93.9.

NOTES FROM REPORTS OF STATE AGENTS.

MAINE.

It has rained, more or less, during fifteen days of the month, and on the 23d, 24th, and 25th it rained copiously. This kept the ground wet, as between the periods of rain there has hardly been sufficient sun to dry off the land so as to make it suitable for working. On the morning of June 10 there was a frost in the counties, Somerset, Penobscot, Piscataquis, and Aroostook. Ice formed one-fourth of an inch thick in some places, and crops were badly injured. As a result of these unfavorable circumstances crops are backward and farm work is delayed. Much land intended for corn or potatoes has been put into beans, buckwheat, and barley; some seeded and some yet remains untouched, and will be seeded in August. Much of the corn was not planted until May 26 to June 16, and at a period when in average years it has been a foot high, stalky, and of good color, it is this year just coming out of the ground. Reports from all parts of the State indicate that oats are rusting badly in consequence of the cold, wet, and cloudy weather.

Timothy and clover are looking well. The weather in some respects has been favorable for meadows, but there has been a remarkable absence of sunshine for two months, and grass in consequence is rank on new rich fields, and "spindling" on old fields, while in both cases a great deal of sun is needed to mature and sweeten it.

There is a much larger acreage of beans than last year. They have taken the place of corn, potatoes, and in many cases oats, but they too are late.

NEW YORK.

The first half of June was characterized by excessive rains which overflowed streams and did a great deal of damage to crops. The last half was hot and marked by a sharp drought, which caused a rapid growth of corn. Corn is, however, generally small, with a reduced area, but the crop is better than last year—not so many bare spots nor is it so weedy. Wheat is looking fine in the wheat belt and generally has not lost in condition. Rye has been injured by the *aphis* in the sections where the crop is most grown, and is reduced a little in its average condition. Oats got a poor start from the cold, wet, and bad condition of the land when they were put in. As soon as they were well up, they were attacked by the wheat *aphis*, a small green louse which caused many leaves to turn yellow and die. Twenty per cent. of the leaves of oats in the greater part of the State have been killed or blighted in this way.

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thus reducing the vitality of the plant. Oats are the least promising of all the cereals. Many fields have been plowed up for other crops. Barley also is somewhat injured by the *aphis* and its condition is slightly reduced. Potatoes are reduced in acreage. They are unusually late and the vines small. The acreage of beans is increased, as they have been planted on land where the oats have been plowed up. They have been kept back by the wet—the seed in some cases rotting. The bean weevil has also injured them.

Clover on low lands has suffered from excess of water. Timothy and pasture are exceedingly fine. Apples, pears, and peaches almost a total failure. Grapes are high in condition, but backward. Hops are promising well.

VIRGINIA.

Much trouble has been experienced in getting a good stand of corn in many parts of the State, on account of cut and bud worms, yet in the aggregate there promises to be a good crop, some counties reporting the finest since 1868. Wheat has continued to depreciate in quality since the last report. It has suffered in many ways. The frost of March injured it in its then advanced condition of growth much more than was thought. Since then the fly, rust, and in some sections wind and hail storms, have nearly ruined it. Some of our best farmers claim there will not be over one-half a crop. The bearded varieties are reported as doing the best.

Spring oats are almost worthless in the whole tide-water section of Virginia. Rust, flies, and insects, heretofore unknown, have destroyed whole fields. But for the winter oats in this section, it might be said that the entire crop is a complete failure. In the other parts of the State the conditions are more favorable.

The potato crop generally is quite good—in a large part of the State excellent. Some counties report damage to sweet-potatoes and much trouble in getting a stand.

The area of tobacco is somewhat diminished, but the crop generally is good.

The hay crop is somewhat deficient in quantity, but owing to the favorable harvesting season, was saved in fine condition.

The peach crop is almost a failure, and fruit generally is very short.

PENNSYLVANIA.

There is a reduction in the area of corn as compared with that of last year, on account of the unusually rainy weather at planting time. The crop is backward, but is now growing rapidly and promises a good crop. While the condition of wheat is slightly higher than last reported, there are complaints of rust, fly, and blasted heads. The grain aphis (*Siphonophora avenæ*) attacked the wheat when heading and greatly interfered with the maturing of the grain. The prospects for even a fairly good crop of oats are very discouraging. The crop made a fair start, but about the middle of May it was attacked by a disease entirely new and unknown in this section. It was thought at first to be only a temporary injury resulting from excessive moisture, but it has continued up to date, affecting the crop seriously, and correspondents report its prevalence nearly all over the State. The plants are not all headed yet, and but a small portion of the crop is more than half its usual height. Early sown oats seem to be more affected than those sown later. Potatoes did not come up as well as usual, but they promise a fair crop. Very few complaints are made of injury from bugs. Clover shows a poor stand, owing to injury to the roots from worms. Timothy and pastures are in excellent condition. Fruits are practically a failure.

NORTH CAROLINA.

With the exception of wheat, oats, apples, and peaches, all of which were seriously damaged by insects and spring pests, crops are much above the average at this date. There have been neither floods nor droughts sufficient to do any perceptible damage

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to the growing crops. Cotton and corn are well advanced and at least ten days earlier than usual. The complaints of injurious insects are local, not general. The Hessian fly and louse did great damage to wheat and oats. The bud-worm cut down much of the early corn on low ground, but the replanting is doing well. The potato bug is becoming more numerous every year, and is quite a pest to the growers of Irish potatoes.

GEORGIA.

In most sections the season thus far has been unusually favorable for corn, cotton, potatoes, peas, etc., but very unfavorable for fruit and small grain. The small grain crops, which have all been harvested excepting a small area in the northern part of the State, are far below an average. While there has been no general drought, yet some areas are now suffering severely for want of rain, and corn is beginning to suffer materially. Cotton is in fine condition and unusually clean of grass and free from disease. The weather has been unusually favorable for this crop. The apple crop was seriously injured by the severe weather of March 1 and 15. Peaches are practically a failure. Grapes were not seriously affected and will yield a fair crop.

MISSISSIPPI.

Crops generally are in a flourishing condition, although rust has injured late sown oats and badly damaged the wheat crop. Early sown oats are the best seen in years. The cotton crop is in good condition except in the Delta, where many fields containing from 300 to 500 acres have been totally destroyed by cut-worms. Farmers generally replanted—finishing about June 15.

LOUISIANA.

Corn as a rule is good nearly everywhere, especially the early plantings. Oats turned out better than was anticipated, the grain being heavy and of good quality. Prospects for cotton are much improved. County correspondents report it as being free from grass, in a flourishing condition, with a decided advance in growth.

In sugar-cane the outlook was never more promising than at present. The crop is generally laid by. Rice also has gained several points, and the acreage has largely increased, due principally to the introduction of improved harvesting machinery.

In fruits, apples, peaches, and pears are a failure, grapes a partial crop and oranges about three-fourths of a crop.

TEXAS.

There is an increased acreage of corn as compared with last year, and its condition is a full average. Neither winter nor spring wheat has done well. Oats have been extensively sown and are in good condition. The area of Irish and sweet potatoes is about the same as last year, and they show a full average condition.

The condition of cotton is above an average, the fields are free from weeds and grass, and the plants are growing finely. The wool clip is about the same as last year. Pastures are in good condition. Peach growing is generally quite a profitable industry here, but the crop this year is an entire failure.

ARKANSAS.

The acreage planted to corn is nearly up to the average, while the condition of the plant is a few points lower than usual at this season of the year, owing to too much wet weather and a somewhat backward season. The wheat crop is somewhat disappointing and will fall below the average in both quantity and quality. Rye has done fairly well, but from present indications the crop will be somewhat below the average. The oat crop at one time gave promise of being at least an average one, but the cold, wet weather which prevailed during the spring months greatly retarded its "stooling" and growth, followed by rust and insects, in many localities to

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such an extent that in some instances the entire crop was nearly ruined. The crop will not be more than one-half the average of former years. Irish potatoes, more especially the early varieties, have made a very satisfactory crop, both in quality and yield. The later varieties are also doing well. The area planted is about the same as last year. Sweet potatoes are doing fairly well, yet the season has not been as favorable as last year.

The tobacco crop is reported to be in excellent condition, as a rule. The acreage planted this year is something below that of last year in many localities, while in the tobacco-growing region proper there seems to be a large increase.

KENTUCKY.

The wheat is mostly in the shock and threshing has begun. Most of the grain is shriveled and will not make a good flour yield. Oats are almost a failure, being destroyed by rust and insect pests. They were sown three weeks late and the soil was so closely packed from excessive rain that the plant food could not be assimilated. The tobacco crop will fall short of the 1888 crop.

OHIO.

The season has not been a favorable one for most crops. Corn and oats are reduced in acreage, and neither of them in good condition. Early planted corn did not germinate well, and much that was replanted and late planted rotted in the ground. Much of the corn suffered from lack of cultivation, owing to excessive rains followed by extremely hot weather, which baked the soil, and to subsequent rains which prevented the working of the ground. The wheat harvest in the southern and central counties discloses the fact that the yield is not as large as was expected. Complaint is made of imperfect filling of the heads, damage by the grain louse, rust, and abnormal growth of straw with light heads and shriveled berry. In the northern and eastern counties, where the harvest has not commenced, the condition is considerably better. Oats are thin and backward, and are being damaged by rust and the grain louse. Clover and timothy show a vigorous growth, and the crop of grass will be heavy. Apples are dropping quite badly, and peaches are almost a failure. Indications are favorable for a fair crop of grapes.

MICHIGAN.

The acreage of wheat is about the same as last year. Its condition is nearly 10 per cent. below an average, owing to the lateness of the planting season and the prevalence of the grub-worm in the sod fields. The condition of winter wheat has improved somewhat since last report. The re-appearance of the *aphis* caused some alarm, but it has done little or no damage. Considerable rust is reported on late sown wheat on corn stubble. Harvest began June 30. Oats, though not looking quite as well as on June 1, promise a good crop. The usual acreage of potatoes was planted and they are doing finely. More interest is taken in the planting of beans, and where well cultivated they are found to be a profitable crop. Clover, timothy, and pastures are better than for several years.

Since June 1 there has been a decrease in the condition of the apple crop. A complete failure of the crop from various causes is reported from several counties. In some instances the leaf blight has caused the premature falling of fruit, in others the failure is due to frost and hailstorms in May. Some correspondents report the cause as unknown, but nearly all agree that the crop will be the lightest grown for many years. Peaches also show a decline since the June report.

INDIANA.

The condition of winter wheat is fully ten points higher than at last report. Considering the late planting, corn was never better. The clover crop just harvested is the heaviest for several years. Oats promise a fair crop in some localities, but in

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some of the southwestern counties the depredations of a small green insect which appeared about the first of May, have caused a total failure. No material change in the fruit crop since June 1 is reported. Timothy meadows are in fine condition.

ILLINOIS.

The mean temperature of June was 4.6° above the mean of this month for the past eleven years. In most parts of the State there was more than an average amount of sunshine. The precipitation for the month was unevenly distributed, the rain-fall being excessive in the greater portion of the northern division, was slightly below a seasonable average in some of the central counties, while there was a marked deficiency in a majority of the counties in the southern division.

There is an increase in the area of corn as compared with last year in the central counties of the State, where a large area of wheat was winter killed. The area of the crop in the northern and southern sections of the State is unchanged. The condition of corn is above an average in the central division, which has been less affected by excessive wet than the northern portion or by drought which has been severe enough in many of the southern counties to check growth to some extent.

On account of excessive rains in the northern counties during the planting season, a portion of the crop there is late and the condition low. On flat and undrained lands much replanting was done. A large portion of the crop is very promising, having made rapid growth during the last half of the month.

The condition of winter wheat has improved since last report, the gain being in the southern division. There is a loss in the central portion, in some localities, by the ravages of the Hessian fly. On the whole, there is a slight gain. The crop is now harvested and is in good condition. There is no change to note in winter rye, the condition being the same as reported June 1. The plant louse has destroyed nearly the entire crop of oats in the southern division. In a few counties as low as 5 per cent. of an average crop is all that is left for seed. Only two counties estimate the crop as high as half an average. In the central division the ravages of the louse have been more extensive than in the southern counties, yet they have worked to a greater or less extent in nearly all. No insect injury to the crop is reported from the northern division, where it looks fairly well.

The area planted to Irish potatoes is less than last year. The low price obtained for potatoes last year did not encourage farmers to increase the production. The condition of the crop is below an average.

Apples and peaches have each fallen a few points during the past month. There has been some complaint of apples dropping off. Grapes promise about 80 per cent. of a crop, which is much better than was expected just after the severe frosts of May 6 and 7.

WISCONSIN.

Corn planting was late, but the abundance of rain and the continued hot weather have dispelled the fears entertained early in the season that this crop would be a failure. In several localities damage is reported to wheat and other small grains from rust caused by excessive heat and moisture, and some damage is being done by the chinch-bug. Oats are generally of rank growth and in some localities are badly lodged. The percentages of condition of winter wheat, oats, and barley are very liable to be lowered by the extreme growth these crops are making. The best pieces of these grains must lodge and the crop be measurably impaired thereby. A similar danger threatens the hay crop, especially clover, which will be injured by lodging and rotting at the bottom. Pasture is the best for years, and the problem with the farmer this year is not how to get grass enough for his cattle, but how to get enough cattle for his grass.

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MINNESOTA.

Reports from all counties as to the condition of the growing crops are uniformly satisfactory. Wheat, oats, barley, and potatoes are doing well. Heavy and frequent rains fell throughout the State during the month of June, which caused a rank growth, and in some instances the grain is lodged, but not sufficiently to cause any very great damage as yet. Corn has been backward, but the extreme hot weather for the past two weeks has caused a rapid growth, and the crop is now as forward as usual at the end of June. Cut-worms appeared in many of the fields during the month, but their depredations on the crop were not serious. The State has been unusually free from all injurious insects thus far this year.

IOWA.

Copious showers and high temperature during the month of June have been very favorable to plant growth. Chinch-bugs and cut-worms have made their appearance in several counties. Rust is also reported. The frequent rains have retarded work in the fields to some extent, and in some localities crops have been damaged by excessive rains and floods, while in one or two places the rain-fall has been hardly sufficient; yet as a whole the season has been one of excellent promise, and the average condition of crops at this date ranks very high.

There is a steady growth of the sheep industry in this State, and consequently an increased amount of wool sheared each year.

Haying began this week. Some of the upland meadows, especially timothy, are light, on account of lack of rain in May, but the aggregate hay crop will be good. Pastures were never better than during the last thirty days.

MISSOURI.

A decreased acreage of corn is reported, the largest falling off being in southeast Missouri, where excessive rains continued until after planting time. Quite an area was planted in that section during the month of June. Though late in getting started, it grew rapidly at first, but drought is now retarding its growth. Corn generally throughout the State is small for the season, but the color is good; the growth has been rapid and the fields are free from weeds and well cultivated. Insects of various kinds have been working on the crops in different localities, but thus far the damage has not been extensive, although the grain aphis (*Siphonophora avenæ*) is threatening considerable harm.

The last ten days have been very favorable for the wheat harvest. The crop is nearly all in the shock, and in the southern part of the State considerable threshing has been done. The wheat was thin on the ground, but many fields were found to be better than was anticipated before harvesting began. The heads are well filled with grain of an excellent quality. There is, however, considerable chess in many fields.

The damage done by the grain *aphis*, or Texas oat-louse, to the oat crop has been enormous. This insect has spread over all that portion of the State east and south of a line drawn from the northeast to the southwest corner of the State, and has completely ruined a large portion of the crop. The earliest sown fields have been damaged less than those sown later. In other sections not ravaged by the *aphis* the oats are shorter in straw than usual. Potatoes (Irish and sweet), beans, and sorghum show a decreased acreage, principally in the southeast. Tobacco continues to fall off in area, the decrease this season from last year's area being quite marked. It is not considered a profitable crop at present prices. The condition of cotton has improved very greatly during the last two or three weeks, and now promises a fair crop, but from a reduced area. The mild winter and exposure of the sheep to the weather, together with the decreased number of sheep, results in a decreased wool clip. Col-

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ver will yield a fair crop generally, but timothy is short and light. Pastures are being injured by the prevailing dry weather. Apples are falling prematurely, and grapes are rotting badly in some localities. The present low condition of fruit is the r sult of the late spring frosts.

KANSAS.

The unusually cold and dry spring weather retarded the germination and growth of corn, making the stand very uneven in many localities. The plant, however, is thrifty, and with plenty of moisture the yield will probably be very heavy. Chinch-bugs are reported in a few counties, but as yet no damage has been done by them. The wheat harvest is nearly completed. While the yield per acre is not so large as last year, the quality of the berry is much better and of a more uniform grade. The weather has been most favorable for harvesting and the crop was secured in fine condition. Spring wheat has been reduced twelve points from the estimate of last month. Not being so far advanced as winter wheat, it suffered very much, along with oats, during the first and last week of the month, from extreme dry and hot weather. All other growing crops have been more or less injured from the same cause during June, but were not far enough advanced to be seriously damaged.

CALIFORNIA.

The weather during the month has been favorable for cultivation of corn, vineyards and orchards, also for the hay harvest, as it has been dry, and with the exception of a few hot days, pleasant and cool. Although a larger acreage than usual has been planted to corn in most sections, where the weather was too wet during the winter to sow grain, the overflow along the Sacramento and other streams may reduce the total area to about the usual amount. The wet winter seriously interfered with the wheat, in acreage as well as in condition, and a good deal sown for grain has been cut for hay.

Peaches will hardly be over half a crop, and the same may be said of apricots, nectarines, almonds, and plums budded or grafted on peach-roots. Where the trees are healthy the fine quality of the fruit will in a certain measure make up for the deficiency in quantity, and as these crops seem to be short all over the country, higher prices may make up the balance. The dead or dying trees are mostly on hard pan soils, where the water seems to have caused stagnation and souring of the sap.

Grapes have stood the wet weather better than any other fruit, and from the latest reports it seems that the mysterious vine disease of the south has run its course. The vineyards seem to be reviving. In the raisin-growing districts, large new plantations have been made, and they are preparing for a large crop. In the northern counties, where the best wines are produced, the phylloxera is making heavy inroads, and the only remedy is the planting of American vines. But owing to negligence, and also to the low prices of grapes and wines the last two years, many of the vineyards are in a deplorable condition; either destroyed by phylloxera or abandoned by their owners. Wherever the vines are healthy and well cultivated, they look better and more vigorous than they have done for many years. The promise is a full average crop.

SOUTH DAKOTA.

The acreage of corn is much larger than last year, and were it not for damage by cut-worms, the condition would be above an average. The crop is well advanced and of great promise. Both winter and spring wheat have improved many points in condition since June 1. Spring wheat is somewhat irregular in its appearance, being thin on the ground in some localities, owing to the fact of its germinating unevenly in early spring, but in most cases the stand is good. Oats and barley have improved in condition, influenced by the warm weather and an abundance of moisture. The area of potatoes is larger, about 10 per cent., than last year, and the condition is a full average. Meadows and pastures are in excellent condition.

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Table showing the acreage and condition of crops July 1, 1890.

States and Territories.	Corn.		Wheat		Rye.		Oats.—Average condition July 1.	Barley.—Average condition July 1.	Potatoes (Solanum tuberosum.)		Potatoes (Batatas ed-ulis), sweet.		Beans.		Sorghum.		Tobacco.		Cotton.—Average condition July 1.	Clover.—Average condition July 1.	Timothy.—Average condition July 1.	Pasture.—Average condition July 1.	Apples.—Average condition July 1.	Peaches.—Average condition July 1.	Grapes.—Average condition July 1.
	Acreage compared with last year.	Average condition July 1.	Average condition of winter wheat July 1.	Average condition of spring wheat July 1.	Average condition of winter rye July 1.	Average condition of spring rye July 1.			Acreage compared with last year.	Average condition July 1.	Acreage compared with last year.	Average condition July 1.	Acreage compared with last year.	Average condition July 1.	Acreage compared with last year.	Average condition July 1.	Acreage compared with last year.	Average condition July 1.							
Maine	99	84	.....	.....	.....	92	85	83	100	83	.....	.....	101	93	.....	.....	.....	.....	.....	90	94	99	94	.....	90
New Hampshire	97	87	.....	.....	.....	90	90	89	101	92	.....	.....	102	97	.....	.....	.....	.....	.....	88	91	99	90	90	95
Vermont	98	93	.....	.....	.....	96	95	90	100	99	.....	.....	100	98	.....	.....	.....	.....	.....	87	93	98	.....	.....	92
Massachusetts	99	91	.....	96	.....	91	73	83	100	97	.....	.....	100	92	.....	.....	103	98	.....	89	99	99	94	67	82
Rhode Island	100	94	.....	.....	.....	90	75	86	100	97	.....	.....	102	100	75	100	101	.....	.....	99	99	99	97	50	83
Connecticut	100	96	.....	90	.....	97	72	96	101	96	.....	.....	100	100	100	100	100	99	.....	98	99	98	97	15	70
New York	90	87	.....	96	.....	96	75	80	97	90	.....	.....	102	92	100	100	100	98	.....	98	99	99	90	30	80
New Jersey	100	96	.....	93	.....	93	65	.....	103	98	109	86	103	100	.....	.....	.....	.....	.....	100	99	98	98	28	66
Pennsylvania	100	91	.....	95	.....	93	67	81	100	96	98	99	97	98	85	93	100	97	.....	97	98	99	98	28	72
Delaware	101	92	.....	82	.....	87	75	.....	101	98	110	98	105	98	100	100	105	97	.....	97	98	99	97	32	80
Maryland	101	94	.....	90	.....	92	68	93	101	98	101	99	95	96	100	110	100	93	.....	98	98	98	97	18	75
Virginia	101	97	.....	74	.....	90	70	86	101	97	101	97	98	97	96	96	100	93	92	98	98	97	97	21	80
North Carolina	102	98	.....	66	.....	86	74	75	101	98	102	98	102	98	101	97	102	97	95	98	98	98	97	28	83
South Carolina	101	95	.....	56	.....	80	75	72	101	97	103	98	99	93	98	98	.....	.....	95	94	90	94	94	23	90
Georgia	101	101	.....	52	.....	75	70	78	101	97	100	96	99	93	97	96	.....	.....	97	97	96	96	95	46	80
Florida	102	97	.....	.....	.....	.....	65	.....	101	93	100	96	81	96	97	96	.....	.....	91	98	98	98	95	18	72
Alabama	101	96	.....	57	.....	84	73	90	101	95	100	99	105	100	93	96	.....	.....	95	95	91	95	95	27	80
Mississippi	100	98	.....	60	.....	95	85	.....	102	99	102	100	101	93	98	96	.....	.....	89	96	96	99	96	42	81
Louisiana	88	91	.....	.....	.....	.....	88	.....	101	90	101	98	100	100	98	96	.....	.....	80	97	97	96	97	40	80
Texas	101	90	.....	48	.....	78	68	66	105	97	104	97	95	92	96	94	.....	.....	80	97	97	98	97	50	71
Arkansas	96	88	.....	.....	.....	92	70	.....	102	92	101	92	96	93	96	94	.....	95	80	100	98	97	97	60	85
Tennessee	100	90	.....	62	.....	85	53	84	101	89	100	95	99	96	90	90	100	90	80	95	94	96	96	54	85
West Virginia	100	93	.....	83	.....	89	67	.....	96	88	96	95	93	94	90	90	103	93	93	97	94	99	98	47	88
Kentucky	99	87	.....	78	.....	93	77	85	98	87	99	90	96	96	94	91	110	85	.....	96	96	98	96	30	78
Ohio	99	87	.....	82	.....	94	75	93	99	91	100	90	96	94	92	95	102	98	.....	96	94	98	96	18	83
Michigan	100	89	.....	75	.....	94	75	92	101	96	106	98	96	94	95	89	97	97	.....	97	97	99	95	25	85
Indiana	101	94	.....	67	.....	93	75	94	98	90	101	98	98	96	89	89	.....	.....	.....	97	98	99	98	43	88

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STATISTICS OF MEXICO.

Many interesting facts in relation to Mexico are found in a report accompanying the exhibit of that country at the Paris Exposition of 1889, prepared by Señor Antonio Garcia Cubas, and published by the Mexican ministry of public works. It makes an octavo volume of 415 pages, and bears the title, "Geographical, Statistical, Descriptive and Historical Study of the United States of Mexico."

After a brief account of the geographical situation of Mexico and of its political, administrative, and judicial institutions, comes a table showing the area and the population of the twenty-seven states, the two territories, and the federal district. The states are grouped according to their geographical situation. Reducing square kilometers to square miles at the rate of .3861 mile per kilometer, the table is as follows:

States, etc.	Area in square miles.	Population.	Capitals.	Population.
On northern frontier:				
Sonora	77,546	134,790	Hermosillo	15,000
Chihuahua	89,292	225,652	Chihuahua	25,000
Coahuila	59,305	150,622	Saltillo	26,000
Nuevo Leon	25,097	236,074	Monterey	36,000
Total	251,240	747,138		
On Gulf coast:				
Tamaulipas	29,344	161,121	Ciudad Victoria	8,000
Vera Cruz	24,275	631,476	Jalapa	14,000
Tabasco	9,816	104,747	San Juan Bautista	8,000
Campeachy	20,849	93,976	Campeachy	16,000
Yucatan	28,185	329,621	Merida	50,000
Total	112,470	1,310,941		
On Pacific coast:				
Sinaloa	36,189	223,684	Culiacan	8,000
Jalisco	27,268	1,250,000	Guadalajara	105,000
Colima	2,701	72,501	Colima	26,000
Michoacan	23,166	784,108	Morelia	30,000
Guerrero	22,869	353,193	Chilpanzingo	6,000
Oaxaca	28,782	768,508	Oaxaca	28,500
Chiapas	29,730	241,404	San Cristoval	10,500
Total	170,708	3,693,488		
In the interior:				
Durango	42,537	255,652	Durango	27,000
Zacatecas	25,233	465,862	Zacatecas	45,000
Aguas Calientes	2,896	140,180	Aguas Calientes	32,000
San Luis	25,994	516,486	San Luis Potosi	36,000
Guanajuato	12,548	1,007,116	Guanajuato	73,531
Queretaro	3,938	203,250	Querotaro	30,000
Hidalgo	7,737	506,028	Pachuca	25,000
Mexico	8,286	798,480	Toluca	15,000
Morelos	1,670	141,565	Cuernavaca	8,000
Puebla	12,741	833,125	Puebla	100,000
Tlaxcala	1,507	438,478	Tlaxcala	8,000
Total	145,067	5,006,222		
Federal District	463	475,737	Mexico	350,000
Territories:				
Lower California	59,923	31,167	La Paz	4,000
Tepic	11,583	131,019	Tepic	14,000
Grand total	751,463	11,395,712		

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Of the total population, 5,469,942, or 48 per cent., are males, and 5,925,770, or 52 per cent., females. The population in 1880, as stated in the annals of the Ministry of Public Works, was 9,908,011, as compared with which the present figures show an increase of 1,487,701 inhabitants, or 15 per cent. for a period of eight years, 1880–'88. It is intimated that the actual population in 1880 was somewhat larger than the published figures, and that the rate of increase has consequently not been so great as a comparison with those figures would indicate. The only cities having more than 100,000 inhabitants are Mexico, Guadalajara, and Pueblo, which appear above among the State capitals.

ETHNOGRAPHY.

The population of Mexico may be divided into three great groups, as follows:

	Number.	Per cent. of total.
Europeans and Spanish-Americans	2,165,185	19
Persons of mixed race	4,900,156	43
Aborigines	4,330,371	38
Total	11,395,712	100

These groups are distinguished by differences of language, manners, and customs. The members of the first group and a sufficient number out of the second to constitute a majority of the Mexican people use the Spanish language, mingled in the case of the mixed race with provincial expressions and words of indigenous origin, and they in general conform to the customs of European civilization. From the first group, chiefly, are recruited the learned professions, and, broadly speaking, the capital employed in agriculture, mining, manufactures, and commerce is owned by its members.

The members of the second group are found largely in the cities and towns where they are employed in all kinds of handicrafts, and they are also scattered over the rural districts engaged in agricultural labor, in the working of mines, and in other industrial callings. They constitute the bulk of the working class of the country. Vivacious, intelligent, and endowed with the faculty of imitation, the members of this group are distinguished for their skill in mechanic arts. They have a somewhat advanced social organization, and in the cities the workmen are accustomed to hold meetings, sometimes for reading and discussion, sometimes for recreation. Almost all the working men's associations possess libraries and maintain free schools out of their own resources.

The aborigines in the mountainous regions have preserved their ancient language, customs, and traditions and devote themselves

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with industry to the cultivation of the soil; but the members of the same race living in the neighborhood of the great centers of population have notably degenerated, and while clinging to many of the ancient customs of their race, are, withal, indolent and careless, forming in this respect a striking contrast with their brothers of the mountains. Some tribes, such as the Comanches and Apaches, which make frequent incursions from the Territories of the United States, are altogether savage, and are perfidious, treacherous, and cruel. On the other hand, aborigines who are more or less advanced in civilization intermix with the other races and live by agriculture, by the making of cotton fabrics, in which the Indians of Oaxaca and Vera Cruz are especially distinguished, by basket work, the production of common pottery, and hat making. They also produce butter, cheese, and numerous other articles of common necessity which they offer for sale in the cities.

That the Indians are capable of a high degree of civilization is proved by the fact that many of those who have had the advantage of a liberal education have attained positions of eminence in the public offices and in ecclesiastical careers. The degeneracy of certain tribes is attributed in large part to precocious marriages, while the decrease in number of the aborigines as compared with that of the whites and the mixed race, and their gradual disappearance in many parts of the country, are attributed to diseases by which they have been decimated, to the wars through which the country has passed, and finally to intermarriages with members of the white and mixed races.

VALUE OF REAL ESTATE.

The assessed value of real estate, which we are cautioned to accept only as a minimum estimate based on the statements of proprietors when returning their property for taxation, is stated as follows:

	Pesos.	Dollars.
Urban property	252,086,126	191,081,283.51
Rural property	221,433,745	167,846,778.71
Total	473,519,871	358,928,062.22

These figures are given as being for the year 1888, and if we compare them with those for 1880 we have the following result:

Assessed value of real property in 1880, 366,055,052 pesos; 1888, 473,519,871 pesos. Increase, 107,464,819 pesos.

This increase of assessed value in the eight years, 1880–'88, amounts to 29.4 per cent., against an increase of 15 per cent. in the population of the country within the same period. Public buildings and religious edifices are not included in the above values.

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CLIMATE, SOIL, AND PRODUCTIONS.

The northern part of Mexico lies within the temperate and the southern part within the torrid zone; and this fact, together with the configuration of the surface, determines the climate of the country, difference of elevation being much the more influential of the two factors. The most general division is into three regions, known as the hot, temperate, and cold lands, respectively, but it is difficult to fix their respective boundaries, for these vary with the contour of the country and the transition from one region to the other is scarcely perceptible—a remark which also applies to their respective floras.

The regions bordering the two coasts and ranging in elevation from the sea-level to an altitude of 1,000 meters (3,280 feet) have for the most part a climate of tropical character, the mean summer temperature ranging from 30° to 31° centigrade (86° to 88° Fahrenheit). The soil near the coast is in general exceedingly fertile and abundantly supplied with moisture by the summer rains, but the country is unhealthy, especially in the neighborhood of swamps and marshes. The year is divided into two seasons, the wet and the dry. The tropical rains begin in June and increase in abundance from July to the autumnal equinox, after which they diminish, and about the first of November entirely cease, the dry season then beginning and lasting till the following June.

The changes of temperature in this region are comparatively slight, except in localities exposed to the northeast and southwest winds on the Pacific coast, and to the strong winds from the north, which prevail from October to March on the Gulf coast, reducing the temperature as low as 22° centigrade (72° Fahrenheit).

The *tierras templadas*, or temperate lands, embrace a region ranging in altitude from 1,000 to 1,600 meters (3,280 to 5,250 feet, and extending along both the eastern and western slopes of the cordilleras. Much of the territory within this favored region enjoys a climate of perpetual spring, the mean temperature ranging between 23° and 25° centigrade (73° and 77° Fahrenheit), and cold and excessive heat being alike unknown. Jalapa and Huatusco, in the State of Vera Cruz, Chilpancingo and Tasco, in the State of Guerrero, Ameca, in the State of Jalisco, and many other localities situated within the temperate region, are much extolled for the mildness and salubrity of their climate, which, however, is subject to the drawback of frequent fogs when the wind-swept clouds are driven against the sides of the mountains. Europeans are quickly acclimated in this region and are there secure from the endemic diseases which prevail on the coast.

The third region embraces all the land which rises to a height of more than 1,600 meters (5,250 feet). It comprises a great part of the central plateau, the mean annual temperature of which varies between 15° and 17° centigrade (59° and 63° Fah.). There are, however, within the limits of this central plateau certain deep depressions, in which the tem-

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perature and productions are those of the temperate region. A few hours of traveling are sufficient to show the traveler the widely differing climates and productions of all three of these regions.

During the winter the temperature of the high plateau is frequently below the freezing-point, but generally the winter is mild and the mean temperature is from 13° to 14° centigrade (55.4° to 59° Fah.). The cold which prevails on the high mountains and with less intensity on the high plateaus is in striking contrast with the delightful temperature of the temperate region and the extreme heat of the coast, which last, however, is not to be compared with that of Senegal or the Soudan.

Thanks to the diversity of climate found within Mexican territory, its vegetable productions are infinitely varied. Between the coast and the foot of the Cordilleras the hot region presents its savannahs, or wide prairies, with their excellent pasturage. Here and there are scattered groves of trees, among which figs, bignonias, and terrebinths predominate, and in many places there are equally isolated clumps of gigantic bamboos. In this region vegetation acquires an extraordinary vigor and development. The woods and forests are filled with valuable trees, some of them esteemed for their savory fruits, some for their timber, furnishing cabinet-woods of the finest quality, or lumber for building, and others for the dye-stuffs, medicinal products, etc., which they yield. There are also great numbers of herbs and creeping and sarmentose plants, belonging to the genera *Banisteria*, *Passiflora*, *Paullinia*, *Ipomœa*, *Vitis*, and *Asclepias*.

Among the useful species found in the forests are mahogany, iron-wood, or teak, the ceiba (*Eriodendron anfractusum*), the bombax (*Acacia Acapulcensis*), the ebony tree, the copal of Vera Cruz and that of China, the oak, myrtle, and cedar, Brazil-wood, and logwood trees, the dragon's-blood tree (*Pterocarpus draco*), the magnolia and its Mexican congener, the *Yoloxochitl*, numberless varieties of the mimosa genus, and other trees and plants too numerous to mention. Coutchouc and anacahuite (*Cordia Boissieri*) are of great importance, the first for its many industrial applications and the second for its medicinal properties.

Among fruit-bearing trees and plants may be mentioned the mamey (*Lucuma bonplandi*), the zapote (*Achras zapota*), and the *Lucuma salicifolia* of the Zapotacean family; the orange tree, the lemon tree, the cedrat and the citron tree of the Aurantiacean family; the cocoa tree (*Cocos nucifera*), the date tree (*Phœnix dactilifera*), the coyol palm tree (*Cocos guacuyule*), and the *Elais melanoœca*, a species very abundant on the coast of the States of Colima and of Guerrero; the guava tree (*Psidium pyriferum*), the *Inga jinicuil*, the plum tree (*Spondias purpurea* and *Spondias mombin*); the pine-apple (*Ananas sativus*) among Bromeliaceæ; the (Anona humboldti, *a glabra and a reticulata* among the Anonaceæ; the *avocado* (*Persea gratissima*) among the Laurineæ; the tamarind among the Leguminosæ; various kinds of bananas of

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the genus Musa (*Musa paradisiaca*); the common mangrove, and that of Manilla; the melon (*Cucumis melo*) and the water melon.

Vanilla grows wild. The species cultivated in the canton of Jalacingo, State of Vera Cruz, is of a superior quality, and is highly esteemed in foreign markets.

Jalap (*Convolvulus jalapa*) also grows wild, and is very abundant in the State of Vera Cruz.

Sugar-cane (*Saccharum officinarum*) is cultivated upon a large scale, especially in the State of Morelos. The zone of its cultivation comprises the State of Colima, the southern part of Jalisco, the States of Michoacan, Mexico, Puebla, and Vera Cruz, a large part of Guerrero, the whole of Morelos (which is considered the productive center), and the States of Oaxaca, Tabasco, Chiapas, Campeachy, and Yucatan. Although sugar-cane should be cultivated in the whole of the hot region, it is rarely found outside of the limits just indicated.

Coffee (*Coffea arabica*) is produced in great abundance in the cantons of Cordova, Coatepec, Jalapa, Huatusco, and Tulancingo, in the state of Vera Cruz, and in the States of Morelos, Oaxaca, Michoacan, and Colima. Owing to its superior quality this product is largely exported.

The cultivation of tobacco is carried on under excellent conditions in the cantons of Tuxtla, Acayucan, Jaltipan, Cordova, Orizaba, Huatusco, Coatepec, Jalapa, Jalacingo, Misantla, and Papantla, in the State of Vera Cruz; while the canton of Tuxtepec in the State of Oaxaca is especially famous for the excellent quality of its product. The plant is also cultivated, though only on a small scale, in the states of Tabasco, Campeachy, Yucatan, and Chiapas. On the Pacific Coast the chief tobacco producing district is that of Tepic and Compostela in the State of Jalisco.

Cotton (*Gossypium*) is successfully cultivated in the states of Sonora, Sinaloa, Guerrero, Yucatan, Oaxaco, Jalisco, Michoacan, and Vera Cruz; but the really productive region extends from Santa Rosalio and Rio Florido, in the southern part of Chihuahua, to the districts of Viezca, Parras, and Monclova in the state of Coahuila, and to the northern part of the State of Durango watered by the river Nazas.

The State of Tabasco produces a cocoa (*Theobroma cacao*) of a very good quality. The same product receives special attention in the State of Chiapas, particularly in the canton of Soconusco, which produces a cocoa of superior quality and highly esteemed abroad.

The indigo-tree (*Indigofera tinctoria*) is cultivated on both coasts, principally in the states of Vera Cruz, Oáxaca, Guerrero, and Chiapas.

On the coasts and throughout the hot region are produced many other useful plants, among which may be mentioned sarsaparilla, Tabasco pepper (*Eugenia pimenta*); manioc (*Jatropha manihot*), which produces the starch out of which tapioca is made; rice (*Oryza sativa*) which is cultivated in the hot and moist districts, and *Maranta arundinacea* from which is obtained arrow-root flour.

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In short, Mexico produces an infinity of plants useful in industry and medicine, as well as numerous varieties of tinctorial lichens, among which archil, gathered in Lower California, is destined to become an important article of export.

The temperate region lying between 1,000 and 1,600 meters (3,280 and 5,250 feet) of altitude, adds to the productions proper to itself many of those of the hot and cold regions respectively. Upon the heights are seen forests of oak with their somber foliage, while the lower valleys are covered with myrtles, laurels, tiliaceæ, euphorbiaceæ and melastomaciæ in rich variety; and with ferns, from the smallest ones which cover the interstices of the rocks and the bark of trees, to those of aborescent growth and palm-like foliage. The bottoms of valleys are covered with woods of liquidambar (*Liquidambar styraciflua.*)

The undulating crests of the Cordilleras crowned with coniferous trees serves as a limit to the central plateau. The country often broken by the spurs of the Cordilleras or by isolated ridges of hills, is transformed during the rainy season into green meadows and rich fields of wheat, barley, or maize. Here and there are fields naturally watered, hence the distinction established between culture by irrigation and that of the rainy season.

The great height of the central plateau, together with the physical constitution of the steep mountain ranges covered with cracked basalt, which favors the infiltration of the waters, explains the absence of rivers in the interior of the country. It is scarcely possible in some localities to put to profitable use the existing feeble streams. This disadvantage is especially felt in the vast deserts of northern Mexico, where the traveler finds only at long intervals some miserable rivulet, some cistern, some little deposit of water to quench his thirst.

The transition from the temperate to the cold region is indicated by the presence of resinous plants. The rich variety of the conifers attains a prodigious development between the altitudes of 7,500 and 11,000 feet. Beyond that limit the arborescent vegetation begins to lose its vigor and to disappear completely at 13,000 feet, yielding its place to herbaceous vegetation which in its turn disappears at about 13,700 feet above the sea-level.

The *Taxodium distichum*, pine tree, white cedar, cypress, and the mountain cedar, form woods of great beauty, quite symmetrically disposed on the flank of the mountains and give to the cold region its peculiarly picturesque aspect.

Agaves form hedges on the road-sides, or laid out regularly in plantations, give to the scene a monotonous and cheerless aspect which strangely contrasts with that of the cultivated plains, fields of lucern, and the highly cultivated tracts which surround the villages.

Among the valuable orchard fruits may be mentioned various kinds of pears, peaches, apricots, cherries, apples, figs, quinces, etc. Gardening is highly developed and the environs of Mexico produce almost all the known vegetables in great abundance and of excellent quality.

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In the gardens are cultivated innumerable varieties of flowers, which form the principal adornment of country houses. The number of those which grow spontaneously, in the fields and on the mountains, is endless. In certain seasons they enamel the fields with their variegated colors and the knolls are hidden from sight under the luxuriance of the pretty Saint John flower, the perfumed spikenard, and the *Begonia discolor*.

Textile plants.—The vegetation in all three regions is as rich as it is varied. Textile plants in great variety are scattered over the whole extent of the country. Some of them grow spontaneously and attain a prodigious development, presenting various fibers to industry, from those used in the manufacture of the most delicate tissues down to the coarsest and strongest.

The following are the principal ones:

Various species of agaves, including *A. ixtle*, *A. lechuguilla*, *A. americana*, *A. mexicana*, *A. vivipara*, *A. saponaria*, *A. lutea*, etc.

Various species of banana-trees, which yield a white fiber equally fine and abundant.

Among malvaceæ, which exist in a wild state, may be mentioned *Sida romboidea* with its long filaments, the *Malva scoparia* of Michoacan, the *malraviscus arboreus*, and the *Hibiscus tiliaceus*, very abundant upon the Gulf coast.

Among the textile plants of the Urticean family are the *Urtica dioica* with a textile bark like that of hemp, a beautiful nettle of the State of Morelos, of which the Mexican name is *chichicaxtle*, which appears to be a species of Bœhmeria and produces an excellent fiber. Ramie (*Urtica Bœhmeria*) is cultivated on a large scale and develops admirably in the Republic, principally in the States of San Luis Potosi and Puebla. Various Bromeliaceæ and Tiliaceæ; the Bromelia of Tehuantepec; the Tillandsia, the Yucca. The numerous kinds of palm yield very good fibers, which could be largely utilized in manufactures.

Numerous plants belonging to various families produce excellent fibers; such are the bisnage (*Mamillaria*), the cactuses, among which are *Cactus cereus*, which yields long and silky filaments; the *Eriodendron anfractuossum*, the seeds of which are enveloped in fine filaments resembling those of cotton, and the *Heliocarpus americanus* of the States of Morelos and Puebla.

Lower California, between 27° and 31° of north latitude, produces a species of cactus, from the filaments of which is made excellent paper; it is known under the Mexican name of *cirio*.

Besides the plants above specified, and others too numerous to mention, which are capable of serving for the manufacture of tissues, paper, etc., the mulberry tree and the Chinese mulberry-tree, which indirectly serve a like purpose, are pretty generally scattered over the country, and the attempt to raise silk-worms made in the States of Vera Cruz, Oaxaca, and Michoacan have given very good results.

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The principal agricultural crops, with the values of their annual produce, and the States in which they are chiefly cultivated, are shown below, showing a total value of 33,676,930 pesos in special crops; 147,455,000 in general crops; making a total of 181,131,930 pesos.

Crop.	Value.	Producing States.
	Pesos.	
Cotton	10,857,000	Coahuila, Durango, Chihuahua, Vera Cruz, Colima, Jalisco, Guerrero, Michoacan, Oaxaca, Sonora, Tamaulipas, Nuevo Leon, and Hidalgo.
Rice	1,246,000	Vera Cruz, Colima, Michoacan, Chiapas, Guerrero, Oaxaca, Tampico, Sonora, Yucatan, and Morelos.
Indigo	372,910	Oaxaca, Chiapas, Guerrero, Vera Cruz, Sonora, and Colima.
Cocoa	1,135,360	Tabasco, Chiapas, Oaxaca, and Vera Cruz.
Coffee	3,200,000	Vera Cruz, Oaxaca, Morelos, Michoacan, Colima, and Chiapas.
Tobacco	2,500,000	Vera Cruz, Tabasco, Campeche, Yucatan, Chiapas, Oaxaca, Guerrero, Jalisco, Sinaloa, and Colima.
Cochineal	111,910	Oaxaca.
Vanilla	900,000	Vera Cruz, Oaxaca, Tamaulipas, Tabasco, Guerrero, Michoacan, Jalisco, and Colima.
Sarsaparilla	200,000	Vera Cruz.
Henequen	3,718,750	Yucatan and Campeche.
Ixtle	700,000	
Cane or sugar	8,735,000	Morelos, Vera Cruz, Puebla, Oaxaca, and Yucatan.
Total special	33,676,930	
Maize	110,000,000	Mexico in general.
Beans	8,000,000	
Pease	450,000	
Chick pease	500,000	
Anise	105,000	
Barley	4,500,000	
Wheat	18,400,000	
Sesame	200,000	
French beans	500,000	
Allspice (Chili)	455,000	
Lentils	100,000	
Potatoes	600,000	
Total general	147,455,000	

Reducing pesos to dollars on the basis of 75.9 cents per peso, the total value in our money would be $137,479,135. These figures do not include the value of the products of maguey (Mexican agave), which, though quite large, is omitted for want of accurate data.

INDUSTRIES.

Outside of agriculture and mining, which constitute the most important branches of Mexican industrial activity, a large part of the population lives by commerce, manufactures, and the mechanic arts. The raw materials for the last two are furnished in abundance by agriculture and mining.

The objects manufactured in Mexico comprise paper, hats, cotton and woolen fabrics, silk thread, and some fabrics of the same material, sugar, alcohol, liquors, cordials, wines, and fermented drinks, made from sugar-cane, maguey, fruits, etc., including *mezcal*, *tequila*, *pulque*, quince wine, and the excellent wines of Parras, Paso del Norte, and Aguas Calientes; chemical products, starch, oil, and soap; tobacco and cigars; fine and common pottery; glassware and various articles of

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wax, onyx, silver, mother-of-pearl, tortoise shell, henequen, etc.; joinery and cabinet ware; carriages, harness, etc. Mills, tanneries, and print-works may also be included among the manufacturing establishments of the country, and the cleaning of cotton, the preparation of fats, etc., are among processes connected with the manufacturing industries. The following table shows the number of cotton and print-works in the several States and in the Federal district, with the quantity and value of their annual products:

States, etc.	No. of factories and print works.	Number of pieces of cloth.	Value of product.	
			Pesos.	Dollars. *a*
Federal district	6	452,400	1,583,400	1,201,801
Puebla	22	995,200	3,483,200	2,643,749
Mexico	3	186,800	653,800	496,234
Hidalgo	1	16,800	58,800	44,629
San Luis Potosi	1	33,408	116,928	88,718
Guanajuato	4	272,400	953,400	723,631
Vera Cruz	*b* 6	87,000	304,500	231,116
Queretaro	3	150,000	525,000	398,475
Tlaxcala	2	26,400	92,400	70,132
Guerrero	1	24,000	(*c*)	.....
Sinaloa	3	141,600	495,600	376,160
Chihuahua	3	90,000	315,000	239,085
Oaxaca	2	72,000	252,000	191,268
Jalisco	10	282,000	987,000	749,133
Colima	2	48,000	168,000	127,512
Durango	7	150,000	525,000	398,475
Sonora	1	12,000	42,000	31,878
Michoacan	3	114,000	399,000	302,841
Nuevo Leon	3	54,000	189,000	143,451
Coahuila	*e* 8	302,000	*e*1,142,000	866,778
Yucatan	1	15,600	54,600	41,441
Zacatecas	1	6,000	21,000	15,939
Aguas Calientes	3	36,000	126,000	95,634
Total	96	3,567,608	*f*12,487,628	9,478,110

a On the assumption that the figures in the table are for 1888, pesos are reduced to dollars at the rat of 75.9 cents to the peso, which was the United States Treasury valuation for January 1, 1888.

b Including two establishments for which no figures are given. One of these is designated as a spinning-mill andthe other may not have been running.

c At 3½ pesos per piece—the value at which the product is estimated in all other cases save one—the 24,000 pieces produced by the one factory in Guerrero would amount to 84,000 pesos; but the fact that no value is given would seem to indicate that there were reasons for not adopting that valuation in this case.

d Including one establishment, a spinning-mill, for which no figures are given.

e The product of one factory, producing 170,000 pieces, is valued at 4 pesos per piece, that of each of the other seven being valued at 3½ pesos per piece.

f This is the sum of the values given in the table, but the total given in the Mexican report is 462,000 pesos more, or 12,946,628 pesos. This discrepancy may possibly arise from including in the grand total values which are not included in the itemized statement, such as the values of the products of the spinning-mills mentioned in notes *b* and *d*.

The cotton supply is obtained chiefly in the rich region which extends from St. Rosalie, in the state of Chihuahua, to the river Nazas (Naxis), in the States of Durango and Coahuila. It is also produced in considerable quantities near the coast, in the States of Vera Cruz, Oaxaca, Guerrero, Colima, and Jalisco.

The cotton consumed by the Mexican factories amounts to about 260,000 quintals (57,319,600 pounds) yearly, about one-half of which is

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imported via Vera Cruz and other ports, at an average price of 20 pesos per quintal (a fraction less than 9.1 centavos per pound, the value of the centavo, which varies with that of silver, having been for the last few years about three-fourths of a cent in our money as computed by the United States Treasury Department). The annual productions in cottonades, tickings, percales, and calicoes, including fabrics of which no statistics have been furnished, exceeds—says the author of the report—the figures given above, and according to a careful estimate amounts to 3,800,000 pieces of cottonade, 280,000 pieces of calico and percale, and 2,735,000 skeins of cotton yarn, used by the manufacturers of shawls, spreads, napkins, hose, and other objects.

The cotton industry affords a maintenance to more than fifty thousand families.

The principal woolen factories in the republic are given by name in the report and comprise three in the Federal District producing yearly about 162,000 pieces of cloth; three in the State of Mexico, producing about 150,000 pieces of cloth and carpet; five in the State of Puebla, producing 550,000 pounds * of woolen yarn, which is used in the manufacture of various articles, such as serapes, *jorongos*, plaids, etc., and three in Hidalgo, producing 125,000 pieces of cloth. There are several factories in the State of Guanajuato, including one which is not now running, but which used to produce nearly 85,000 lengths (*coupons*) of casimir and of cloth and about 50,000 meters (54,681 yards) of carpet. There are seven paper mills, two in the State of Jalisco, one in Vera Cruz, and four in the Federal District, producing enough paper in the aggregate to supply the chief printing offices for periodical publications and classic works. The chief establishments for the production of fine pottery, three in number, are in the City of Mexico.

NATIONAL FINANCES.

In the fiscal year 1886–'87 the revenues of the National Government amounted to 32,126,509.07 and the expenditures to 31,736,204.27 Mexican dollars, or pesos, which, at the rate of 79 cents per peso—the estimated value on January 1, 1887—will make the revenues $25,379,942.17 and the expenditures $25,071,602.16 in our money. The revenues with reference to the sources from which they are derived, may be divided as follows:

	Pesos.
Duties on imports	17,268,650.16
Other imports connected with foreign trade	596,241.32
The stamp tax	7,538,150.51
Other internal taxes, etc	3,829,867.89
Postal telegraph and other services, etc	2,893,599.19
Total	32,126,509.07

*The Mexican pound=1.01418 pounds avoirdupois.

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With the internal taxes, other than the stamp tax, is included the product of the national lottery, amounting to 325,149.18 pesos. The postal receipts amounted to 739,732.65 and the receipts from the Government telegraphs to 197,478 87 pesos.

The expenditures, with their principal objects, are shown below:

	Pesos.
Legislative department	1,052,913. 15
Executive office	49,251. 50
Judicial department	436,387. 80
Ministry of—	
Foreign affairs	417,726. 00
The interior	3,227,529. 20
Justice	1,431,081. 24
Public works	2,698,116. 30
Finances	10,863,485. 78
War	11,559,714. 00
Total	31,736,204. 97

The revenues and expenditures of the State governments and the Territory of Lower California are given in detail, the totals being as follows:

	Pesos.	Dollars.
Revenues	11,203,761	8,850,971. 19
Expenditures	11,011,313	8,698,937. 27

As compared with 1880, the national revenues for 1886–'87, as above stated, show an increase of 10,190,353 pesos, or 46.4 per cent., and the revenues of the States an increase of 4,191,799 pesos, or 59.8 per cent.

RAILROADS AND TRAMWAYS.

The idea of connecting the city of Mexico with Vera Cruz by rail was broached as early as 1837, but the work was not begun until 1842, and it then advanced so slowly that in 1851 the road had been built only from Vera Cruz to San Juan, and in 1857 from Mexico to Guadaloupe. It was not until after new concessions that the work was pushed forward to completion, and the road was not opened for traffic till the first of January, 1873. The era of railroad building in Mexico did not fairly begin till 1877, since which time enterprises have multiplied under the stimulus of ample franchises and liberal grants from the Government. In 1880 there were in operation 15 lines, with an aggregate length of 1,055 kilometers (656 miles). In 1888 the number of lines had increased to 47 and the aggregate length to 7,506 kilometers (4,664 miles). That is, the railroad mileage of Mexico was increased more than seven-fold in the eight years from 1880 to 1888.

The principal lines are the Mexican Railroad, broad gauge, running from the City of Mexico to Vera Cruz, 424 kilometers (263 miles); Sonora Railroad, broad gauge, from Guaymas to Nogales, 422 kilo-

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meters (262 miles); the Mexican International Railroad, broad gauge, from Piedras Negras to Torreon, 616 kilometers (383 miles); Mexican National Railroad, narrow gauge, from Mexico to New Laredo, 1,348 kilometers (838 miles); Mexican Central Railroad, broad gauge, from Mexico to Paso del Norte, 1,971 kilometers (1,225 miles). Of the 7,506 kilometers in operation in 1888, there were 4,688 of broad gauge and 2,818 of narrow gauge.

There are 351 kilometers (218 miles) of tramway included in the above figures on railways, of which 215 kilometers (134 miles) are of broad and 136 kilometers (84 miles) of narrow gauge. Of the total length of tramway, the City of Mexico, with its environs and Tlalnepantl in the federal district, comprises nearly 162 kilometers (100 miles). Guadalajara, in the State of Jalisco, stands next in length of tramway, but has only 23 kilometers (14 miles). Many other cities have lines ranging from 1 to 8 miles in length.

TELEGRAPHS.

The first trial of the telegraph was made in 1850 by Don Juan de la Granja, with a line of 1 kilometer (less than two-thirds of a mile) in length, which connected the national palace of Mexico with the School of Mines in the same city. In 1880–'81 the aggregate length was 16,910 kilometers (10,507 miles). In 1887–'88 it had increased to 44,395 kilometers (27,586 miles); an increase of nearly 163 per cent. in eight years. These figures include the cables along the coast. Of the total length of lines, 23,904 kilometers (14,853 miles) belong to the Federal Government, nearly 6,669 kilometers (4,144 miles) to the States, 4,098 kilometers (2,546 miles) to private parties, nearly 6,798 kilometers (4,224 miles) to railroads, and 2,926 kilometers (1,818 miles) to the Mexican and Central and South American Telegraph companies. The last item includes 2,094 kilometers (1,301 miles) of cable lines.

The number of messages sent over the Government lines during the twelve months ended June 30, 1888, was 671,444 comprising 12,043,187 words and amounting to 866,760.66 pesos ($657,871.34). The number of messages in the twelve months covered by the report of the Ministry of Public Works for 1881 was 281,697, amounting to 125,962.45 pesos. The increase in the number of messages was, therefore, over 138 per cent. and the increase in the receipts over 588 per cent.

THE POSTAL SERVICE.

In this branch of the national activity the development which occurred within the period 1880–'88 was very marked, being due to reforms in the postal arrangements, reduction of the rates of postage, and the establishment of new post-offices. In the department of domestic correspondence the number of pieces carried, was, in 1880, 5,788,182; in 1888, 27,390,288; the increase being 21,602,106. In the correspondence between Mexico and foreign countries the number of pieces was, in

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1880, 1,366,608; in 1888, 1,627,538; the increase being 260,930. The receipts amounted in 1880 to 605,652 pesos; in 1888 to 805,436 pesos; the increase being 199,784 pesos.

That the increase in the receipts is so far from being proportionate to the increase in the amount of the postal business is accounted for by the reduction in the rates of postage.

TRADE AND NAVIGATION.

According to a memorandum of the ministry of finances the imports for the fiscal year 1886–'87 amounted to the value of 52,252,275 pesos, and the duties on the same to 19,845,015 pesos. The imports for the first half of the fiscal year 1885–'86 are given in some detail by articles, and are shown in the following table along with the duties collected on them:

Articles.	Value of imports.		Amount of duties.	
	Pesos.	*Dollars.*	*Pesos.*	*Dollars.*
Merchandise free of duty	1,890,709.74	1,542,819	.....	.....
Cotton	7,361,493.40	6,006,979	3,476,829.64	2,837,013
Flax and hemp	708,919.69	578,478	319,617.25	260,808
Wool	1,728,171.66	1,410,188	868,615.77	708,790
Silks	379,305.97	309,514	175,951.92	143,577
Silk mixtures	460,684.01	375,918	215,139.63	175,554
Alimentary substances	2,744,872.90	2,239,816	1,018,914.65	831,434
Stones and earths	105,655.77	86,216	33,436.59	27,284
Crystals, glassware, faience, and porcelain	375,170.80	306,139	163,356.45	133,299
Gold, silver, and platinum	104,889.85	85,590	8,845.20	7,218
Iron and steel	930,772.06	759,510	337,135.17	275,102
Copper and its alloys	368,618.99	300,793	119,385.54	97,419
Tin, lead, zinc, etc	47,020.75	38,369	17,279.08	14,100
Mercury	442,397.34	360,996	152,475.25	124,420
Machines and apparatus	1,050,641.52	857,323	40,507.21	35,054
Carriages, etc	73,404.39	59,898	20,934.33	17,082
Arms, powder, and munitions	263,287.41	214,843	70,931.20	57,880
Wood and manufactures of	229,627.65	187,376	85,747.65	69,970
Paper, pasteboard, etc	948,823.97	774,240	313,262.51	255,622
Poultry	271,826.51	221,810	98,556.59	80,422
Drugs, chemicals, and medicines	772,846.63	630,643	248,065.78	202,422
Various other commodities	2,094,078.80	1,708,768	767,217.69	626,050
Total	23,353,210.81	19,056,227	*8,552,205.10	6,978,600

* The total amount of duties, as printed in the Mexican report, is 8,552,246.41 pesos, or $6,978,633, but the sum of the items in the table is as given above. There is no means of determining whether the discrepancy arises from an error in the addition or in one or more of the items in the table.

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The exports for the first half of the same fiscal year, according to a special statement prepared in the ministry of finances, were as shown in the following table:

Articles.	Values.		Articles.	Values.	
	Pesos.	*Dollars.*		*Pesos.*	*Dollars.*
Silver ore	776,906.78	633,956	Beans	29,945.57	24,403
Foreign gold coin	21,263.00	17,351	Fruits	44,373.01	32,944
Mexican gold coin	137,485.32	112,188	Chick-peas	5,769.27	4,708
Gold in bars	131,909.50	107,638	Quitch grass	12,120.00	9,890
Foreign silver coin	27,819.07	22,700	Henequen	1,403,839.31	1,145,533
Mexican silver coin	11,198,201.20	9,137,732	Bone	5,740.00	4,708
Silver, residue of smelting	3,190.00	2,603	*Ixtle*	272,632.87	222,468
Silver amalgo d mixed	61,130.85	49,883	Wool	141,247.64	115,258
Silver in bars	2,349,628.29	1,917,297	Various woods	623,909.85	509,110
Sulphuret of silver	24,508.33	19,999	Various woods worked	6,665.57	5,406
Silver bearing lead	2,680.00	2,187	Honey	26,163.34	21,349
Live animals	265,767.92	216,867	Orchil	27,592.55	22,516
Anire	56,132.50	45,804	Fine pearls	6,600.00	5,386
Sugar	58,800.50	48,055	Hides	761,559.66	623,840
Cocoa-nuts	2,066.66	1,686	Lead	240,790.41	196,485
Coffee	553,634.86	451,766	Jalap root	3,461.00	2,824
Stone coal	105,173.73	85,822	*Zacatan*	86,052.42	70,204
Salt meat	5,491.04	4,481	Tobacco	192,238.96	156,891
India rubber	39,146.67	31,944	Vanilla	282,812.00	230,775
Horse hair	22,578.30	18,424	Sarsaparilla	58,909.96	48,071
Shells, mother of pearl, pearl	9,534.99	7,781	Various commodities	99,360.64	81,078
Chicle	36,211.36	29,548			
Phosphate of lime	9,100.00	7,426	Total	20,229,784.90	16,507,565

The following table shows the countries to which the exports were sent, with the value sent to each:

Countries.	Values.		Countries.	Values.	
	Pesos.	*Dollars*		*Pesos.*	*Dollars.*
United States	12,373,683	10,096,925	Belgium	3,660	2,987
England	5,588,172	4,559,938	Guatemala	1,025	837
France	1,293,147	1,055,208	Peru	600	490
Germany	702,437	573,189	Austria	25	20
Spain	194,183	158,453	Italy	10	8
Colombia	61,076	49,838			
Venezuela	7,526	6,141	Total	20,229,784	16,507,564
San Salvador	4,240	3,460			

The following statement, furnished by the Ministry of Finance, shows the number and tonnage of vessels entered into Mexican ports and the number and tonnage of those cleared therefrom during the year 1887:

Engaged in—	Entries.				Clearances.			
	Steam craft.		Sail craft.		Steam craft.		Sail craft.	
	No.	*Tons.*	*No.*	*Tons.*	*No.*	*Tons.*	*No.*	*Tons.*
External trade	653	877,518	587	155,207	642	875,378	562	149,144
Domestic trade	1,680	680,714	4,897	163,836	1,710	697,781	4,937	167,440
Total	2,333	1,558,232	5,484	319,043	2,352	1,573,161	5,499	316,584

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The nationalities of the flags of the vessels entered and cleared, with the number of entries, clearances, and aggregate tonnage under each, are shown below:

Nationalities.	Entries.				Clearances.			
	Steam craft.		Sail craft.		Steam craft.		Sail craft.	
	No.	*Tons.*	*No.*	*Tons.*	*No.*	*Tons.*	*No.*	*Tons.*
Mexican	6	1,869	59	4,232	2	800	58	3,570
North American	376	454,442	191	43,161	374	457,289	173	39,905
British	132	150,962	83	30,127	128	158,488	79	29,352
Spanish	85	187,409	31	4,306	85	185,832	24	2,985
German	36	47,992	87	30,911	36	47,117	88	31,513
French	14	25,772	11	4,400	14	25,802	15	5,767
Norwegian	....	....	62	22,400	.....	.....	61	20,782
Danish	....	.....	28	7,577	.....	.....	25	6,467
Swedish	....	.....	17	5,610	....	.....	20	6,318
Other	4	52	18	2,483	3	50	19	2,465
Total	653	877,518	587	155,207	642	875,378	562	149,144

EDUCATION.

Primary schools are generally supported by the local authorities, but a considerable number of them receive support or assistance from the General Government. Of the private schools a large number are under the protection and surveillance of individuals, or of benevolent associations such as the Lancasterian or Catholic Societies.

The instruction given comprises reading, writing, Spanish grammar, arithmetic, geography, an epitome on universal history, the history of Mexico, and deportment, to which are added, in the case of girls, sewing and different kinds of needle-work.

Almost all of the States of the Mexican Confederation have adopted the principle of making primary instruction obligatory and gratuitous; and, in order that the obligatory provision may not be too elusory, penalties are imposed on parents or teachers who seek to evade it, and rewards or premiums have been instituted as an incentive to regular attendance.

The Lancastrian method of instruction is the one generally employed, but object-teaching has been introduced into some of the schools.

The number of primary schools in the republic and the number of pupils enrolled in them are shown below in comparison with the corresponding data for 1881, as published in the annals of the Ministry of Public Works for that year:

	Schools.			Pupils.		
	1888.	1881.	Increase.	1888.	1881.	Increase.
Male	8,027	6,441	1,586	393,142	324,006	69,136
Female	2,699	2,095	604	150,835	111,947	38,888
Total	10,726	8,536	2,190	543,977	435,953	108,024

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These figures show an increase of nearly 26 per cent. in the number of schools and nearly 25 per cent. in the number of pupils within seven years. In the female schools the increase was nearly 29 per cent., against less than 25 per cent. in the male schools; and the increase in the number of female pupils was nearly 35 per cent., against about 21½ per cent. in the number of males. From these facts it appears that along with the general progress shown by the increase in the total numbers of schools and pupils, respectively, there was some advance in the direction of removing the great inequality between males and females in respect to the enjoyment of educational advantages.

For the higher grades of instruction there are 16 secondary schools for young ladies, 16 preparatory schools for the professional courses, 19 schools of law, 26 seminaries, 9 schools of medicine, 8 colleges of engineering, 1 practical school of mining, 31 institutes or lyceums, 4 schools of the fine arts, 2 schools of theoretical and practical agriculture, 2 schools of commerce, 7 schools of arts and trades for men and women,* 3 conservatories of music, 1 school for the blind, 1 for deaf mutes, 1 military and 2 naval schools, and numerous normal schools for teachers. The attendance at these various institutions comprises about 2,500 girls and 18,500 boys, making together 21,000, which, added to the number in the primary schools as shown above, gives a total of 564,977 pupils and students.

Besides the institutions already named, private secondary schools are found in the capitals of the different states and in all the more important cities, the aggregate number of their pupils being estimated at about 10,000.

The secondary and professional schools in the federal district employ 350 professors.

The expenditures for primary, secondary, and professional schools amount in the aggregate to 3,512,000 pesos ($2,665,608), contributed as follows:

	Primary schools.	Secondary schools.	Total.
	Pesos.	*Pesos.*	*Pesos.*
Federal government	70,000	732,000	802,000
Municipality of Mexico	130,000	.....	130,000
Prefectures of the federal district	.....	.....	30,000
Public aid	.....	.....	50,000
Total in federal district	.....	.....	1,012,000
State and municipal governments elsewhere	1,800,000	*700,000	2,500,000
Grand total	.....	.....	3,512,000

* Secondary and professional schools.

A statement is given showing the courses of study pursued in the several classes of higher schools. The curriculum of the schools of agri-

* The words used seem to imply that each school is for both sexes, but the meaning probably is that there are seven in all, including one or more for women.

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culture comprises the following subjects: Descriptive geometry, linear, mechanical, and ornamental drawing and drawing from nature, book-keeping, agriculture, general and applied chemistry, technology, tree culture, gardening, rural management, agricultural accounts, hygiene, zootechny, veterinary clinics, mathematics, physics, meteorology, natural history, irrigation, topography, rural constructions, comparative anatomy and physiology, internal and external pathology, surgery, therapeutics and materia medica, veterinary obstetrics, general anatomy and pathology, French, English, and gymnastics.

EUROPEAN CROP PROSPECTS FOR JULY.

SUMMARY.

Prevalence of rain on the Continent during June has lowered the condition of the wheat crop as compared with May.

GREAT BRITAIN.

The latest reports from the great wheat yielding counties in England and Scotland speak well of the prospects of the wheat crop, although in the East and South there are some complaints of low temperature at night and too abundant rains.

FRANCE.

The general complaint in France in June was that for the season the temperature was too low. The damage, however, does not appear to be great—the blooming period having passed satisfactorily. The last few days have been favorable, and taking into consideration the strong vitality of the wheat the prospects may be looked upon as very good.

GERMANY.

The first ten days of June in Germany were most favorable for the growing crops, and the highest anticipations were entertained that the yield would rival any year known. Following this period the weather has been for the most part dull, cool, and rainy, and at the close of the month there is apparently no improvement in the atmospheric conditions. Rye seems to have suffered more than wheat, and a general strengthening of market prices has taken place.

AUSTRIA-HUNGARY.

During the month there has been little information from Austria, but the weather has been such that the official returns from Hungary may be taken as indicating the conditions. June has not been favorable to the crops, and July is anxiously expected to repair the damages. In the following table, issued by the Hungarian ministry of agriculture at Buda-Pest, can be noted the changes during the past two weeks compared with the statement of 1889. The differences are not great, but since the publication of the report the weather has not improved.

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HUNGARIAN CROP PROSPECTS.

The latest official report gives the following as the condition of the crops of Hungary:

Crop.	Under average.			Average.			Over average.		
	June 26, 1890.	June 19, 1890.	June 27, 1889.	June 26, 1890.	June 19, 1890.	June 27, 1889.	June 26, 1890.	June 19, 1890.	June 27, 1889.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Wheat ..	2.04	1.05	27.07	50.05	52.06	64.01	47.01	45.09	8.02
Rye	2.07	1.34	34.04	59.55	64.02	58.07	38.38	34.46	6.04
Barley ..	15.75	16.95	48.07	61.04	64.38	44.07	19.08	18.67	6.06
Oats ...	33.02	30.04	42.08	59.09	62.04	51.08	6.09	7.02	5.04

BELGIUM AND HOLLAND.

The growing crops present in general a promising appearance. There has been too much rain, and sun is needed to restore the conditions to the normal.

ITALY.

In a few days will be known the general result of the wheat harvest in Italy. The latest advices speak of improvements in the situation since May. The product of wine is not expected to be large, and from several of the most important quarters a spread of phylloxera is noted.

SPAIN.

The Spanish peninsula will have a medium crop of wheat. Some of the heaviest wheat districts report excellent prospects, but in most parts of the kingdom there are numerous complaints.

SWITZERLAND.

The Swiss crops, which were seriously threatened by the cold and rain of the first three weeks of the months have been revived by the appearance of sunny weather. The season is somewhat backward, but with a continuance of the present conditions, a fair crop is expected.

ROUMAUNIA.

The excellent prospects in Roumania have been damaged somewhat during the month by too much cold and humidity, but the latest accounts mention the setting in of good weather.

RUSSIA.

The medium condition of the Russian crops has taken no advance during the month. The general conditions of Europe have obtained in Russia, and there is in consequence a complaint of too much rain. Some accounts from the north and west speak in excellent terms of the

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prospects, but the summary from the black land districts collected in Odessa is couched in doubtful if not in doleful terms. The latest official report is dated May 19. At that time the northeastern provinces were unsatisfactory, the southern provinces were accounted good, and the western provinces the best. Since that time heavy rains have fallen, and still continue, so that the prospect to-day is under an average.

The customs department in Russia has just published the summary of trade for 1889, which shows the total exports from Russia, compared with 1888, to have been as follows:

	1889.	1888.
	Quarters.	*Quarters.*
Wheat (480 pounds)	13, 507, 500	8, 330, 000
Rye (480 pounds)	6, 112, 500	7, 965, 000
Barley (400 pounds)	5, 606, 900	7, 137, 000
Oats (304 pounds)	8, 120, 000	10, 408, 000
Maize (480 pounds)	1, 544, 250	1, 267, 000
Other grain (480 pounds)	1, 770, 000	2, 224, 000
Linseed (424 pounds)	1, 760, 000	1, 823, 000
Other oils-seeds (424 pounds)	449, 000	501, 800

E. J. M.

NOTES ON FOREIGN AGRICULTURE.

[Reports of United States consular officers.]

Ontario, Wallaceburg.—Commercial Agent Warden, under date of June 30, reports that principal crops in his district, fall and spring wheat, barley, oats, beans, and corn, have all been considerably injured; the grain by unfavorable weather during the winter, and all by excessive moisture during the present growing season. With the most favorable condition from now until close of harvest the yield will not exceed two-thirds of a normal crop.

Austria, Vienna.—Consul-General Goldschmidt, in a report dated May 14, 1890, makes up from the official returns of the ministry of agriculture the following statement of crop production of 1889 as compared with official returns of 1888. The table is for the whole of Austria, but in the absence of an official statement for Dalmatia figures for the previous year are used. This statement does not include Hungary, the official estimates for that branch of the dual empire not having yet been made public.

Production.	1889.	Increase or decrease from 1888.
Wheat ..... bushels..	37, 785, 000	− 13, 373, 000
Rye ..... do....	69, 701, 000	− 10, 791, 000
Barley ..... do ...	45, 119, 000	− 11, 469, 000
Oats ..... do....	79, 924, 000	− 23, 901, 000
Maize ..... do....	16, 174, 000	− 192, 000
Wine ..... gallons..	122, 326, 000	+ 12, 641, 000

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An official report of the ministry of agriculture, dated April 24, states that the crops with few exceptions were favorable at that date, mainly owing to the mildness of the winter. A little damage followed cold weather early in April, but warm rains followed restoring condition.

The same officer, at a later date, relative to crops prospects in Hungary, states that the recent rains and heavy storms have done some damage and greatly reduced the temperature. There was no frost, but the excess of rain-fall injuriously affected the luxuriant vegetation. Spring seeding is germinating well, and condition has improved within the last few weeks, the rain having damaged it less than fall crops. Wheat is vigorous, though in many places badly lodged; with favorable weather a good harvest may be expected both as to quantity and quality. But little rust has appeared. Rye as a rule is promising, in many provinces extremely so. The general harvest outlook is more promising than last year.

Italy, Genoa.—Consul Fletcher in a report dated May 3, gives extended estimates of the different agricultural products in his consular district during recent years as presented by Dr. Luigi Baritti, vice-president of the agricultural and horticultural society of the territory composing that district. From these tables the following statement showing the average production of each crop from 1882 to 1887 is presented. For a few of the crops the average is for a smaller number of years.

Products.	Yield.	Products.	Yield.
Olive oil ..... gallons..	2, 564, 859	Barley ..... bushels..	19, 538
Citrus..... (number of fruits) .	39, 442, 670	Kidney bean, peas, lentil .... do ...	61, 692
Maize ..... bushels..	373, 608	Rye ..... do....	16, 264
Wheat ..... do....	753, 201	Chestnuts..... pounds..	93, 442, 178
Oats ..... do ..	12, 708	Potatoes ..... do....	55, 497, 607
Beans, gray peas, etc ..... do....	45, 307	Wine..... gallons..	5, 633, 201

His consular district has a population of about 900,000 inhabitants, but the peculiar formation of the territory composing the district is such that fully three-fourths of the people live along the sea-coast, and it does not therefore produce enough of the necessaries of life to meet the demands for consumption.

Demerara, British Guiana.—Consul Walthal, in his report of April 30, states that the outlook for the present sugar crop is less favorable as the season advances. There was an unusual amount of rain-fall during the winter months, and the dry season of the latter part of February and month of March was brief and broken by showers. The long rainy season set in in April, and a fall of 7 or 8 inches of rain occurred on the 10th, submerging many plantations by the overflow. This excess of moisture tends to check the growth of cane and impairs its quality, though the extent of the damage will depend very largely upon the weather of the next two months.

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The same officer, writing on the 31st of May, states that heavy rains continued during that month, impeding plantation work and the growth of cane, though not impairing the quality of the juice as much as might have been expected.

China, Shanghai.—Consul-General Leonard, under date of April 18, states that no statistics of crop productions are available in that country, and that no record of condition is made. According to the best information available at the time, the prospect for all crops in general was favorable. There was an unusual amount of rain-fall during the winter months and the season was generally early. The following statement gives the values, in United States currency, of agricultural products shipped from China to foreign countries during the calendar year 1889:

Products.	Value in United States money.	Products.	Value in United States money.
Anis seed	$83,840	Oils (essential), anis seed, cassia, etc.	$238,938
Bamboo and bamboo ware	300,508	Provisions and vegetables	774,727
Beans	132,058	Rhubarb	238,025
Camphor	42,691	Straw braid	2,338,841
Cassia liquea	308,867	Sugar	3,131,521
Cotton, raw	5,801,527	Tea	32,495,911
Fruits	663,943	Tobacco	1,041,825
Nutgalls	440,559	Wool	1,074,222
Oil, vegetable	279,623		

Cochin China, Saigon: Commercial Agent Fonsales, in a report dated March 25, states that the weather was very favorable in that district for their rice harvest, which was then approaching an end. The arrivals of new rice were becoming larger, but there has been a rise of a few cents in price due to a very strong demand. The exports of rice from that port for the first quarter of the present year were almost double those of the corresponding period in the previous year.

United Kingdom (Wales), Cardiff:—Consul Jones, in a communication dated April 21, states that there is no general tendency towards change in the agricultural methods or implements used in his district, but there seems to be a regular, permanent, though slight, decline in the area devoted to arable crops. The tendency is towards meadows and permanent pastures. In the county of Glamorgan it is estimated that last year wheat yielded about 26 bushels per acre, barley 32, and oats 45. The quality of all crops was very fine owing to exceptionally fine weather during growing season and at harvest. A table is presented, from which the following statement of the acreage of the principal crops in that district, in 1888 and 1889, is made up.

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	1888.	1889.
	Acres.	*Acres.*
Wheat	76, 828	68, 464
Barley or bere	117, 866	122, 051
Oats	250, 513	249, 022
Other grains	5, 292	4, 371
Potatoes	41, 837	39, 968
Turnips and swedes	72, 125	72, 280
Other green crops	13, 900	14, 951
Grass in rotation	308, 853	318, 131
Permanent pasture	1, 938, 660	1, 949, 417
All other	15, 528	18, 762
Total cultivated area	2, 841, 402	2, 853, 917
Total area of land and water	4, 721, 823	4, 721, 823

Ontario, Port Stanley.—Consul Husher, writing May 7, states that the month of April was cool and the season backward. The area this year under cultivation is estimated to have increased about 10 per cent. from last year. Winter wheat suffered considerable damage and it is believed that the crop will not make more than 75 per cent. of an average one.

A further communication, dated June 6, states that the month of May was very favorable for all crops in this district. There was an abundance of rain, and the weather during the close of the month was warm. The prospect for generally good crops is very promising.

Ontario, Amherstburgh.—Consul Turner, in a report dated June 19, states that fall wheat in his district will not make more than a half crop on account of the unfavorable season. Spring crops are in good condition and an unusually large acreage of spring wheat and oats has been sown. Root crops promise well, and fruit, except pears, will probably be abundant. In that market agricultural products bring the following prices:

Product.	Price.	Product.	Price.
Corn, shelled ..... per bush..	$. 50	Butter ..... per lb	10 to 12 cents.
Fall wheat, No. 1 ..... do ..	.80	Eggs ..... per doz..	10 to 11 cents.
Oats ..... do...	.25	Beef ..... per cwt..	$6. 50 to $7. 00
Hay ..... per ton	8. 00	Mutton ..... do ..	7. 00
Potatoes ..... per bush..	.60		

Spain, Cadiz.—Consul Turner, writing May 10, states that the dry weather which prevented much seed from germinating has been broken by plentiful rains, which have fully restored the condition of all crops that withstood the drought, and that although crops generally will not be large, they will be of superior quality. The coming olive crop gives especially good promise. The Government has ordered the agricultural agents of all provinces where vines are cultivated to hold public meetings for the purpose of discussing methods of destroying the *cryptogramous* which attack the vines. They are instructed to call attention of vine-growers to the fact that sulphate of copper intended for the use of agriculturists is entitled to entry into the country free of duty

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It has also appropriated 4,000 pesetas to be awarded as prizes for the best apparatus devised for the purpose mentioned, and prizes will be given to the laborers most skillful in the management of such apparatus. A further prize of 1,000 pesetas will be given to the author of the best work on the vine, its diseases, and their cure.

The following letter from the civil governor of the province of Cadiz, in response to certain inquiries relative to the agricultural status of that district, is presented:

I am forced to limit myself in replying to the questions which you propound.

The area of this province is about 725,525 hectares. Excluding the uncultivated high and low lands and pastures, there are remaining for cultivation about 349,260 hectares, of which 309,805 are devoted to the growing of cereals and their associated vegetables, 20,640 to vineyards, 13,200 to olive trees, and the rest to the orange and other fruits. As will be seen by the foregoing the cultivation of cereals takes the lead, and their average production in normal years differs very little from that of the last harvest, which is estimated at 670,000 hectoliters of wheat, 150,000 of barley, 71,400,000 kilograms of grapes, of which about 500,000 hectoliters of wine are made, and from the olive crop about 25,000 hectoliters of olive-oil.

The triennal system of agriculture is followed. This system divides each farm into three parts, one part produces a crop, a second is plowed and fertilized, and the third rests. As a result of this system only about 103,000 of the 309,260 hectares on which grow cereals, are sown each year. The condition of the agriculture of this province is far from good, owing to the lack of funds which prevents farmers from properly fertilizing the soil and cultivating it with the implements and in the manner recommended by modern science.

Egypt, Cairo.—Consul-General Schuyler, in his report for June, states that it is expected that the present will be a good year, probably one of the best of the last ten. Winter culture, especially in Lower Egypt, has given excellent results. Cereals have done unexpectedly well, the recent rains having had a most favorable effect on wheat and barley. The yield is superior to that of last year, which was generally estimated to have been very satisfactory. The yield of beans in the delta has been less satisfactory, the average product being only about 19 bushels per acre. The failure is owing to the invasion of a well-known parasite. Meteorological conditions in Middle and Upper Egypt appear to have been less favorable, there having been an insufficient supply of heat during the growing season for cereals. Cotton is in good condition and making vigorous growth. The worm has made its appearance in some places, but with no serious damage yet. The acreage planted is larger than last year.

Denmark, Copenhagen.—Consul Ryder, in his report of May 17, states that winter cereals, after passing through a winter of unusual mildness, are generally reported from all parts of the Kingdom as presenting a most promising appearance. The low temperature prevailing during portions of April, with strong drying winds, tended to retard their growth, as well as that of all vegetation, but no serious damage was experienced. Clover and grass are also reported in good condition and well forward. An abundance of summer rain fall is needed on account of the relatively small fall of snow and rain during the winter months,

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the lower stratum of the earth lacking moisture. A long drought, similar to that of last year, would bring disastrous consequences upon the agriculture of the Kingdom. In some portions of the country an unusually large area has been devoted to potatoes, and their seed-bed was in excellent condition.

Palestine, Jerusalem.—Consul Gillman writes, on April 30, that there was an abundance of rain-fall during the month of April, not only to insure the safety of the grain crop, but to give promise of a favorable harvest for all products. In most parts of Palestine, indications point to good crops of all kinds. The exportation of oranges ceased on the 15th of the month, earlier than usual, on account of the scarcity of the fruit. Toward the close of April the orange deteriorates, becoming dry and insipid.

Roses may be had all the year round in Jerusalem, but April and May are considered the season. In the Valley of Roses, about 3 miles from Jerusalem, the flower is cultivated in great abundance, finding a ready market in the city. When sold in large quantities, for making rose-water, they bring from $1.50 to $2 for six pounds. The crop this season is remarkably fine and perfect.

Russia, Odessa.—Consul Heenan, writing May 15, states that the latest reports from reliable sources justify the belief that the Russian grain harvest of 1890 will fully equal that of 1888. Winter wheat promises an unusually large yield. On account of the early spring a larger acreage of spring wheat was sown than usual, and the weather since has been cool, pleasant, and very favorable to the growing crop.

Mexico, Piedras Negras.—Consul Fechet, in his report of June 3, states that it is claimed that the acreage in cotton in the Rio Grande district, in the neighborhood of Piedras Negras, is about 3,000 acres, an increase over last year of 1,000 acres. It is now four years since the first crop of cotton in the district was grown from Texas seed. There has been sufficient rain-fall, which has been very beneficial to the young plants, and present condition promises a yield somewhat above the average of a half bale per acre. But a small proportion of the land in the State of Coahuila is cultivated. In the valleys the sparse population have constructed small systems of irrigation canals, but the crops raised are little in excess of local consumption. Fully nine-tenths of the area of the State is beyond the possibility of irrigation, and when grass is good is used for cattle ranges. On account of abundant rain these ranges are in fine condition this year.

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TRANSPORTATION RATES.

FREIGHT RATES—RAILROAD COMPANIES.

CHANGES IN FREIGHT RATES.

The returns from the trunk line companies, east-bound from Chicago and other important western shipping points, show many changes in the rates of freight upon agricultural products as compared with the rates reported June 1. The changes show a decrease in the rates with one exception, that upon green hides in bundles, car loads, which shows an increase of 6 cents per 100 pounds from East St. Louis, 5 cents from Chicago and Indianapolis, and 4½ cents from Cincinnati. The following table is presented, showing the rates reported July 1, in comparison with those reported June 1:

[In cents per 100 pounds.]

Articles.	To New York from—									
	East St. Louis.		Chicago.		Indianapolis.		Cincinnati.		Detroit or Toledo.	
	June 1.	July 1.	June 1.	July 1.	June 1.	July 1.	June 1.	July 1.	June 1.	July 1.
Beef, dressed, refrigerator cars, C. L.	50	38	45	33	.....	.....	39	28½	35	28
Flour, C. L., 125 barrels and over	29	26	25	22½	23	21	21½	19½	19½	17½
Grain, except corn and oats, C. L. (min-wgt. 24,000 lbs)	29	26	25	22½	23	21	21½	19½	19½	17½
Hides, green, in bundles, C. L.	29	35	25	30	23	28	21½	26	19½	19½
Hogs, dressed, refrigerator cars, C. L.	50	38	45	33	.....	.....	39	28½	35	28
Lard, C. L.	29	26½	25	23	23	21½	21½	20	19½	18
Pork, pickled in barrels, C. L.	29	26½	25	23	23	21½	21½	20	19½	18
Sheep, dressed, refrigerator cars, C. L.	50	38	45	33	.....	.....	39	28½	35	28
Wool in bales or sacks, C. L. (min. wgt. 10,000 lbs)	75½	58	65	50	60½	46½	56½	43½	50½	39
Cattle, C. L.	31	24½	26	19½	24	19½	22½	18½	20½	16½

Articles.	To Boston from—							
	East St. Louis.		Chicago.		Indianapolis.		Cincinnati.	
	June 1.	July 1.	June 1.	July 1.	June 1.	July 1.	June 1.	July 1.
Beef, dressed, refrigerator cars, C. L.	.....	.....	48	33	.....	.....	.....	.....
Flour, C. L., 125 barrels and over	34	31	30	27½	28	26	26½	24½
Grain, except corn and oats, C. L., (minimum weight 24,000 pounds)	34	31	30	27½	28	26	26½	24½
Hides, green, in bundles, C. L.	34	40	30	35	28	33	26½	31
Hogs, dressed, refrigerator cars, C. L.	.....	.....	48	33	.....	.....	.....	.....
Lard, C. L.	34	31½	30	28	28	26½	26½	25
Pork, pickled, in barrels, C. L.	34	31½	30	28	28	26½	26½	25
Sheep, dressed, refrigerator cars, C. L.	.....	.....	48	33	.....	.....	.....	.....
Wool, in bales or sacks, C. L. (minimum weight 10,000 pounds)	81½	63	71	55	66½	51½	62½	48½
Cattle, C. L.	.....	.....	26	19½	.....	.....	.....	.....

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The Illinois Central Railroad Company reports a decrease of 2 cents per 100 pounds in the rates upon lumber in car-load lots from New Orleans to East St. Louis, or from 24 cents June 1, to 22 cents July 1. It also reports changes in the rates from New Orleans to Chicago, as follows:

	June 1.	July 1.
Canned goods:		
C. L	33	30
L. C. L	55	35
Hides, green, salted, C. L	40	31

Returns from the Chicago, Burlington and Quincy Company show changes in the rates from Atchison, Kansas City, and St. Joseph to St. Louis and Chicago, and from Omaha to St. Louis, as follows:

Articles.	Atchison, Kansas City, St. Joseph, to—				Omaha to St. Louis.	
	St. Louis.		Chicago.			
	June 1.	July 1.	June 1.	July 1.	June 1.	July 1.
Cattle, C. L	*9½	7½	†12½	18	.....	.....
Hogs, C. L	*13	21½	†22	25	.....	.....
Soft lumber, C. L	.....	.....	.....	.....	11½	10½

* Rebate of $4.80 per car. † Rebate of $7.35 per car.

The St. Paul and Duluth Railroad Company report changes in their rates from St. Paul and Minneapolis and points taking same rates, to Duluth, as follows:

	June 1.	July 1.
Lard, C. L	10	17
Fresh meats, C. L	15	23
Potatoes, C. L	8½	9

The Delaware, Lackawanna and Western Railway Company reports an increase in the rates upon all articles classified as class two, of from 46 cents June 1, to 47 cents July 1

The following transportation companies report no important changes in their rates since last published:

Pennsylvania Railroad Company (west-bound); Delaware, Lackawanna and Western Railroad (west-bound); New York, Lake Erie and Western Railroad; Chicago and Alton Railroad; Newport News and Mississippi Valley Railroad Company; Mobile and Ohio Railroad; Illinois Central Railroad (north-bound); Norwich and New York Transportation Company; Portland Steam Packet Company; Merchants and Miners' Transportation Company; Old Dominion Steam-ship Company; Winsor Line; St. Louis and Mississippi Valley Transportation Company; Yazoo and Tallahatchie Transportation Company.

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DELAWARE, LACKAWANNA AND WESTERN RAILWAY.

[Rates in effect July 1, 1890, in cents per 100 pounds.]

Articles.	Between New York and—		
	Oswego, Elmira and Binghamton, N. Y.	Scranton and Pittston, Pa.	Buffalo, N. Y.
Agricultural implements:			
O. R., C. L.	.15	.15	.16
N. O. S. K. D., flat, in bundles, L. C. L.	.35	.35	.39
Apples, O. R., P. P.:			
C. L.	.15	.15	.16
L. C. L.	.25	.23	.28
Bacon, packed:			
C. L.	.15	.15	.16
L. C. L.	.18	.17	.19
Beans:			
Dried, N. O. S., in bags or barrels, C. L.	.15	.15	.16
Dried, N. O. S., in bags or barrels, L. C. L.	.18	.17	.19
Beef:			
Dressed, refrigerator cars, L. C. L.	.35	.35	.39
In barrels or tierces, C. L.	.15	.15	.16
Butter:			
In wood, C. L.	.25	.23	.28
Cheese:			
In boxes or casks	.25	.23	.28
Corn:			
C. L. (minimum weight 24,000 lbs.)	.10½	.10½	.11
Fertilizers:			
C. L.	.13	.12	.13
In packages, L. C. L.	.18	.17	.19
Flour:			
C. L., 125 barrels and over	.10½	.10½	.12
Less than 125 barrels	.15	.15	.16
Fruit:			
Green, N. O. S., O. R., P. P., released, C. L.	.30	.30	.33
Dried, N. O. S., in bbls. or casks, C. L.	.18	.17	.19
Dried, N. O. S., in bbls. or casks, L. C. L.	.25	.23	.28
Grain, in bulk:			
C. L. (min. wgt. 24,000 lbs)	.10½	.10½	.13
Less than 24,000 and more than 15,000 lbs	.15	.15	.16
Hams:			
Packed, C. L.	.15	.15	.16
Packed, L. C. L.	.18	.17	.19
Hides:			
Dry, loose or in pkgs., C. L. (min. wgt. 20,000 lbs)	.18	.17	.19
Green, in bundles, C. L.	.13	.13	.13
Hogs:			
Dressed, common cars, L. C. L.	.30	.30	.33
Dressed, refrigerator cars, L. C. L.	.30	.30	.33
Hops, in bales, L. C. L.	.30	.30	.33
Lard:			
In tierces, C. L.	.12	.12	.12
In barrels or boxes, L. C. L.	.18	.17	.19
Lumber:			
N. O. S., C. L.	.13	.12	.13
N. O. S., L. C. L.	.18	.17	.19
Pork:			
Pickled, in barrels, C. L.	.12	.12	.12
Pickled, in barrels (340 lbs. per bbl.) L. C. L.	.18	.17	.19
Potatoes:			
O. R., P. P., C. L.	.15	.15	.16
O. R., P. P., L. C. L.	.18	.17	.19
Salt:			
C. L.	.13	.12	.13
Table, in boxes or bags, L. C. L.	.18	.17	.19
Sheep, dressed, refrigerator cars, C. L.	.27½	.27½	.27½
Tobacco, unmf'd, in hhds. or cases	.18	.17	.19
Wool:			
In bales or sacks (min. wgt. 10,000 lbs)	.30	.30	.33
In bales or sacks, L. C. L.	.35	.35	.39
Cattle, C. L.	.12	.12	.14½
Sheep, C. L.	.13	.13	.17½
Hogs, live, C. L.	.12	.12	.15
Horses and mules, C. L.	.30	.18	.30

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified. K. D.—Knocked down. P. P.—Pre-paid.

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LOUISVILLE AND NASHVILLE RAILROAD.

[Rates in effect July 1, 1890.]

Articles.	From Louisville to—			To Louisville from—
	Atlanta.	Savannah.	New Orleans.	New Orleans.
Agricultural implements, C. L. per 100 lbs.	$0.46	$0.46	$0.25	$0.36
Apples:				
C. L. do	.29½	.31	.25	.36
L. C. L. do	.46	.46	.35	.36
Bacon, packed, C. L do	.36	.35	.28	.26
Beans, in barrels or sacks:				
C. L do	.56	.58	.25	.41
L. C. L do	.56	.58	.40	.41
Beef, dressed, common cars:				
C. L do	.36	.35	.25	.26
L. C. L do	.81	.75	.65	.68
Butter, in tubs or firkins:				
C. L do	.81	.75	.65	.68
L. C. L do	.81	.75	.65	.68
Cheese, in boxes or casks, C. L do	.68	.70	.50	.51
Cotton, uncompressed, any quantity do				.42
Cotton-seed meal and cake, C. L do	.23	.20	.20	.26
Cotton-seed oil, C. L do	.25	.46	.25	*.73
Fertilizers:				
C. L per ton	3.10	4.80	3.05	4.29
L. C. L do	3.70	5.75	3.36	4.80
Flour, in barrels:				
C. L per barrel	.54	.56	.45	.40
L. C. L do	.54	.56	.45	.40
Fruit, dried, in barrels:				
C. L per 100 lbs.	.37	.70	.25	.51
L. C. L do	.37	.70	.50	.51
Grain, C. L do	.27	.28	.20	.20
Hams:				
In boxes or barrels, C. L do	.36	.35	.28	.26
Packed, L. C. L do	.36	.35	.28	.26
Hogs, dressed, common cars, C. L do	.36	.35	.28	.26
Lard, in barrels or kegs:				
C. L do	.36	.35	.28	.26
L. C. L do	.36	.35	.28	.26
Lumber:				
C. L do	.31½	.25	.25	.23
L. C. L do	.68	.70	.50	.51
Pork, pickled:				
C. L do	.36	.35	.28	.26
L. C. L do	.36	.35	.28	.26
Potatoes:				
C. L., released do	.31	.31	.25	.36
L. C. L do	.46	.46	.35	.36
Sweet, in barrels, O. R.; prepaid or guaranteed, L. C. L. do	.46	.46	.25	.36
Salt:				
In barrels, C. L do	.14	.22	*.55	.18
In sacks, L. C. L do	.46	.46	.35	.36
Sheep, dressed, common cars, C. L do	.36	.35	.25	.26
Tobacco, unmanufactured, in hogsheads do	.68	.70	.27	.51
Wool:				
Pressed, in bales, C. L do	.81	.75	.65	.47
In sacks, C. L do	1.07	.95	.90	.47
Hogs, C. L per car	75.00	110.00	75.00	80.00
Sheep, C. L do	75.00	110.00	75.00	80.00

* Per barrel.

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk.

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NORTHERN PACIFIC RAILROAD.

[Rates in effect July 1, 1890.]

Articles.	Between Duluth and—				
	Brainerd, Minn.	Fargo, N. Dak.	Bismarck, N. Dak.	Glendive, Mont.	Livingston, Mont.
Apples:					
Dried, in barrels, C. L ..... per 100 lbs..	$0.25	$0.40	$0.72	$0.94	$1.40
In barrels or boxes, O. R., P. P., or guaranteed, C. L ..... do....	.20	.32	.60	83	1.20
In barrels or boxes, O. R., P. P., or guaranteed, L. C. L.. do....	.32	.52	.84	1.06	1.65
Bacon, in boxes or barrels:					
C. L ..... do....	.20	.32	.60	.83	1.20
L. C. L ..... do....	.25	.40	.72	.94	1.40
Beef, pickled:					
C. L ..... do....	.20	.32	.60	.83	1.20
L. C. L ..... do....	.25	.40	.72	.94	1.40
Butter, in wood or tin, O. R.:					
C. L ..... do....	.32	.52	.84	1.06	1.65
L. C. L ..... do....	.42	.68	1.02	1.26	2.05
Cheese, in boxes, tubs, or casks:					
C. L ..... do....	.32	.52	.84	1.06	1.65
L. C. L ..... do....	.42	.68	1.02	1.26	2.05
Cotton, compressed in bales, any quantity ..... do....	.49	.80	1.20	1.55	2.35
Fertilizers, N. O. S., in packages:					
C. L ..... do....	.10	.16	.24	.42	.58
L. C. L ..... do....	.25	.40	.72	.94	1.40
Flour:					
C. L ..... do....	.12	.16	.27	.52	.68
In cotton sacks, O. R., L. C. L ..... do....	.25	.40	.72	.94	1.40
Corn and oats, C. L ..... do....	.12	.16	.27	.52	.60
Grain (in bags only), L. C. L ..... do....	.25	.40	.72	.94	1.40
Hams:					
Canvas-covered, in bulk, C. L ..... do....	.20	.32	.60	.83	1.20
In boxes, barrels, or crates, L. C. L ..... do....	.25	.40	.72	.83	1.40
Hogs, dressed, O. R.:					
C. L ..... do....	.25	.40	.72	.94	1.40
L. C. L ..... do....	.42	.68	1.02	1.26	2.05
Lard:					
C. L ..... do....	.20	.32	.60	.83	1.20
In barrels or tierces, L. C. L ..... do....	.25	.40	.72	.94	1.40
Lumber:					
C. L ..... do....	.10	.16	.24	.42	.58
L. C. L ..... do....	.25	.40	.72	.94	1.40
Pork, packed, C. L ..... do....	.20	.32	.60	.83	1.20
L. C. L ..... do....	.25	.40	.72	.94	1.40
Potatoes, N. O. S., in sacks or barrels, O. R.:					
C. L ..... do....	.15	.24	.36	.57	1.65
L. C. L ..... do....	.25	.40	.72	.83	1.40
Potatoes, sweet, O. R., L. C. L ..... do....	.42	.68	1.02	1.26	2.05
Salt:					
C. L ..... do....	.12	.20	.30	.52	.60
In sacks, boxes, or barrels, L. C. L ..... do....	.25	.40	.72	.94	1.40
Wheat:					
C. L ..... do....	.12	.16	.27	.52	.68
In bags, L. C. L ..... do....	.25	.40	.72	.94	1.40
Wool, in sacks:					
C. L ..... do....	.42	.68	1.02	1.26	2.05
L. C. L ..... do....	.42	.68	1.02	1.26	2.05
Compressed in bales, L. C. L ..... do....	.32	.52	.84	1.06	1.65
Cattle, in standard cars, C. L ..... per car..	23.50	39.00	45.50	65.00	100.00
Horses, in standard cars, C. L ..... do....	26.50	43.50	54.50	75.00	110.00
Sheep, in standard cars, C. L ..... do....	23.50	39.00	45.50	65.00	100.00
Hogs, in standard cars, C. L ..... do....	23.50	39.00	45.50	65.00	100.00

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. P. P.—Prepaid. N. O. S.—Not otherwise specified.

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OCEAN STEAM-SHIP COMPANIES.

[Rates in effect July 1, 1890.]

Articles.	White Star Line, New York to Liverpool.	Inman Line, New York to Liverpool.	Guion Line, New York to Liverpool.	Anchor Line, New York to Glasgow.
Wheat.....per bushel..	$0.05	$0.04	$0.05	$0.05
Corn.....do.....	.05	.04	.05	.05
Flour.....per barrel..	.48	.36	.36	.36
Flour (in sacks).....per 2,240 pounds..	2.40	2.40	2.40	2.40
Bacon.....do.....	3.60	3.60	3.60	4.80
Lard.....do.....	3.60	3.60	3.60	4.80
Cheese.....do.....	7.20	7.20	7.20	8.40
Tallow.....do.....	3.60	3.00	3.60	4.20
Beef.....per tierce..	.60	.60	.60	.96
Pork.....per barrel..	.44	.48	.48	.60
Oil-cake.....per 2,240 pounds..	1.20	2.40	2.40	2.40
Cotton.....per pound..	.00 3/16	.00 3/16	.00 3/16	.....
Hops.....do.....	.00 1/2	.00 1/2	.00 1/2	.00 1/2
Tobacco.....per hogshead..	3.60	4.80	.....	4.80
Rosin.....per 280 pounds..	.30	.48	.....	.36
Lard (in small packages).....per 2,240 pounds..	7.20	6.00	6.00	6.00
Tobacco (in cases).....per 40 cubic feet..	3.60	3.60	4.80	4.80
Apples.....per barrel..	.....	.60	.72	.84
Hams.....per 2,240 pounds..	3.60	3.60	3.60	4.80
Butter.....do.....	9.60	8.40	8.40	8.40
Measurement per ton (40 cubic feet).....	3.60	3.60 to 4.80	3.00	4.20 to 5.40
Primage.....per cent..	.....	5	5	.....

Articles.	North German Lloyd Steam-ship Company, New York to Bremen.	General Transatlantic Company, New York to Havre.
Wheat.....per 100 pounds..	$0.15	*$0.08
Corn.....do.....	.15	*.08
Flour.....per barrel..	.70	1.00
Flour (in sacks).....per 100 pounds..	.20	.25
Bacon.....do.....	.20	.....
Lard.....do.....	.24	.30
Cheese.....do.....	.40	.40
Tallow.....do.....	.24	.30
Beef.....per tierce..	1.25	1.20
Pork.....per barrel..	1.00	1.00
Oil-cake.....per 100 pounds..	.20	.25
Cotton.....per pound..	†.00 1/2	.00 1/2
Hops.....do.....	†.01	.....
Tobacco.....per hogshead..	6.00	7.50
Rosin.....per 280 pounds..	.60	.....
Lard (in small packages).....per 100 pounds..	.36	.40 to .50
Tobacco (in cases).....per case..	1.50	‡10.00
Apples.....per barrel..	.90	.90
Hams.....per 100 pounds..	.25	.40
Butter.....do.....	.60	.40
Measurement per ton (40 cubic feet).....	4.80 to 10.00	8.00 to 10.00
Primage.....per cent..	.....	5

*Per bushel. †And 5 per cent. primage. ‡Per 40 cubic feet.

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DEPARTMENT OF AGRICULTURE.

REPORT OF THE STATISTICIAN.

New Series. Report No. 76.

REPORT

ON THE

CONDITION OF GROWING CROPS,

AND ON

FREIGHT RATES OF TRANSPORTATION COMPANIES.

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

AUGUST, 1890.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1890.

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AUGUST REPORT.

DEPARTMENT OF AGRICULTURE,
August 11, 1890.

SIR: I have the honor to submit for publication a report on the condition of crops on the first day of the present month, including corn, spring wheat, cotton, rye, barley, buckwheat, potatoes, tobacco, hay, pasture, sorghum, sugar-cane, apples, peaches, and grapes. A compilation of recent official statistics of Canada, and a similar brief of those of the Argentine Republic, showing mainly resources and productions of agriculture, have been prepared for this report.

The usual presentation of the condition and prospects of European crops from the agent of the Department, the deputy consul-general at London, is included.

A synopsis of the official report of the last crop of wheat of India appears among the foreign matter.

The regular tabulations of current changes in transportation freight rates are appended.

Respectfully,

J. R. DODGE,
Statistician.

Hon. J. M. RUSK,
Secretary.

AUGUST CROP REPORT.

CORN.

The first report of corn for the season, on the 1st of July, was very encouraging. The average condition was 93.1, not so high as in many other seasons, but by no means precluding the possibility of a large yield per acre. It had generally a good color, a healthy appearance. Any local reduction in condition was due to wet and cold weather in planting time on the Atlantic coast, too much moisture for cultivation in the Gulf region, and wet spring weather in the Ohio Valley, causing irregularity in growth and deficient stamina where smothered by grasses and weeds. From this slight injury a rapid recovery was possible and

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expected. The surplus of moisture put far away all expectation of immediate drought. As the skies cleared, the plows appeared on the scene, and the surface was bared to the intense rays of the sun, which soon evaporated the water and baked the surface. The change of condition was sudden, and became extreme as the dry season continued.

The result appears in a decline of condition from 93.1 to 73.3. A fall of twenty points indicates the disaster which has befallen the corn crop within thirty days. The cause is the abnormally high temperature of the central maize districts, with insufficiency of rain-fall. The returns of drought, which cover a broad area, and the severity of effects produced, are more general and depressing than the signal service record of temperature would indicafe. One factor in the blighting of vegetation is evidently the hot winds that have scorched the lower basin of the Missouri Valley and the Ohio Valley. The change from drought to daily saturation by repeated and heavy showers has been too sudden and extreme in those regions where drought has been relieved by seasons of moisture.

The crop is late in the New England States, and will require a long, warm season to mature it. In the Middle States the high temperature has advanced growth in the northern districts, and in the more southern there has been some injury from drought. The South Atlantic States report local droughts, with subsequent rains and comparatively good though somewhat reduced condition of corn. Some counties in Mississippi have suffered materially from absence of seasonable moisture. In Louisiana the crop is in high condition, though somewhat late in the overflowed districts.

In Texas the crop is now matured, and is good except in the area that has suffered most from drought. Late planted corn in Arkansas has been seriously injured by drought of the last three weeks in July. In the western and southwestern parts of Kentucky the crop has been severely scorched, while the rains since the 23d of July have materially relieved the fields of the central and eastern districts. In Ohio there is a great difference between the northern and southern parts of the State. The southern division of the counties of Indiana and Illinois have likewise received greater damage than the northern. Condition is less reduced in Missouri. In Kansas the severity of the drought has culminated. Iowa and Nebraska are nearly in the status of the Ohio Valley, while Minnesota makes the highest average of all the States. Wisconsin suffers slightly, and Michigan still more, from drought.

Analyzing the record of condition it appears that the Eastern States all give promise of a fair crop, the Middle States show a larger reduction, and Maryland indicates considerable injury. From Virginia to Florida the State averages are 90 or more, which is promising. Alabama and Mississippi fall below 90, and Texas and Arkansas and Tennessee fall between 70 and 80. In the northern tier of States, from Michigan west, the averages are relatively high. Indeed, the only States that

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fall below the general average (73.3) are Arkansas and Tennessee, in the South, and seven States in the West, viz, Kentucky, Ohio, Indiana, Illinois, Missouri, Kansas, and Nebraska. Unfortunately these States usually represent more than half the value of the crop.

The State agents explain the changes in the maize prospect in extracts from their correspondence printed elsewhere. The county correspondents make mention of local conditions, but their remarks are quite too voluminous for publication this month, and somewhat monotonous in the even tenor of their record of disaster. A few of the more striking or peculiar points presented may be indicated. Quite rapid growth in late planted but well cultivated fields is indicated in New England. A Maine correspondent reports corn as beginning to "spindle" which was planted as late as June 18. While dry weather in this region was not so severe or long continued as to reduce condition materially, the crop in the dry hill-lands of New Hampshire was somewhat checked in growth and its leaves began to roll and wilt.

"Since the middle of July the season has been as much too dry as it was previously too wet," is a statement by a New York reporter that has a very general application on the Atlantic coast and to other parts of the country. The changes on this idea are rung in all styles of diction and variations of situation through the correspondence. It should be stated, however, that very much of the disaster from this cause is preventible by drainage and thorough preparation of soil. A soil that is saturated easily is injured soonest by drought. If these extremes of succulence and dryness can be regulated, in the soil and the plant, the injury from excessive temperature and moisture will be greatly mitigated. In the arid region, this is accomplished by irrigation; in the rain area, by drainage and thorough comminution of soil.

In many districts of the Atlantic slope, an encouraging feature of the returns is breaking of the drought in the later days of July, with indications of some improvement just as the report was forwarded. Seasonable showers were frequent in this region during the last week of July.

In Alabama and Mississippi there are frequent references to injury from drought in the latter part of June and the first of July, preventing cultivation in an important period of growth. When the rains came they were too late for early corn.

The crop is made in most of the area west of Mississippi. A good yield is assured in Louisiana and in part of Texas. Complaint is made of hot winds in Texas, which wither the tassel as soon as it appears, while yet the stalk and blade are green. In fortunate locations in Arkansas the occasional showers of July have been sufficient; in others, where there was less moisture, or the soil was in poorer condition, considerable reduction of yield is expected. The low condition in Tennessee is caused by long-continued drought.

There is much sameness in returns of the Ohio River region, from West Virginia to the Mississippi. Some correspondents report a drought of

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six weeks' duration. A few write of some relief in the last days of the month. Ohio correspondents repeat the story of extremes, a period of moisture followed by another of drought. It is not altogether past redemption, and may improve if seasonable rains should come. Some reports indicate a failure unequaled since 1883. Similar statements come from various parts of Indiana and Illinois, with occasional indications of recent improvement from rains in the last days of July. The dry season in all this region covered the period from June 20, with slight local exceptions.

Similar returns, with slight mitigation, come from Missouri. The situation is so bad in Kansas, yet so variable withal (average condition 43), that the correspondents may be permitted to speak for themselves:

KANSAS.—*Montgomery:* Materially shortened by drought; early corn suffered most as the tassel had become dry. A good rain July 15–16 revived late corn and will improve the quality of the early; but little more than half a crop is expected. *Sedgwick:* Poorest crop since 1874. *Sumner:* On all uplands it is being cut for fodder. *Thomas:* Early corn and late is suffering from excessive heat, drought, and continued hot winds. *Wabaunsee:* Sure to be short; hardly expect half a crop, owing to drought. *Edwards:* Will not exceed 25 per cent. because of drought and heat. *Chase:* Only light showers in very small spots since July 3, and there will be little or no corn. *Anderson:* Local showers insured some fair fields of corn, but the general crop will not exceed half of an average. Rain would do much good. *Harvey:* All late corn cut off by the terrible drought; early planted also injured to some extent; some of the later fields, where well tended, will make from 30 to 35 bushels per acre. *Jackson:* Half a crop in some localities, owing to local showers; elsewhere there will be but little corn. *Leavenworth:* Drought is taking the life out of it, and even with rain soon it can not exceed a half crop. *Lincoln:* Nearer a total failure than ever before. No rain since June 3; a few local showers that did more harm than good; having hot winds now, and if it did rain now there would not be 5 bushels of corn, taking the county over. Out of 150 acres on my place there will not be 10 bushels of corn; farmers are now cutting it for feed. *Linn:* Rain now can not make over a half crop of corn; severe drought and hot winds dried it up; with drought one week more all will be dried up. *Miami:* Half crop, probably, owing to heat and drought. *Stafford:* Will be an entire failure unless rain comes soon. No good rain since June. Early pieces are in "roasting ear," while late corn looks as if it had been washed—has a white cast over it. *Bourbon:* Some fields are yet green and would make a half crop if rain would come soon. *Butler:* Condition lowering rapidly, owing to the protracted drought. *Cherokee:* Reports from all parts show an alarming decline. In some places there has been sufficient rain to mature three-fourths of a crop of late corn. All early-planted corn is a failure. In one case of early-planted corn on fall-plowing and listed there will be 90 per cent. of a crop, which seems strange. *Ford:* All gone except 5 per cent that. was irrigated. *Harper:* Hopelessly ruined by excessive heat for the past six weeks. One hundred and eight degrees in the shade yesterday. *Jefferson:* Much damaged by drought. Locally improved by showers. *Cloud:* Nearly all cooked by hot winds. Worst drought since 1870. *Ness:* Nearly past recovery from drought and hot winds. *Comanche:* Will be very light, owing to continued drought and hot winds. *Ellsworth:* Badly burned. Temperature since June 15 ranged from 90° to 108°. Can not exceed half a crop even with rain. *Hamilton:* Reduced by drought, but reviving under recent rains. *Kingman:* Suffered from the prevailing drought. *Barber:* In many places in western part of the county corn will not make seed. Eastern portion grows the greater part, and without rain soon it will not make half a crop. *Cowley:* Without rain soon it will not be one-third of a crop. *Dickinson:* No rain in the north half of county for nearly two months. Plant looked fair until

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July 1. Tassel dried up. Strips of corn in south half of county that look well, because of frequent heavy showers. *Woodson:* Nearly a failure from drought. *McPherson:* Can not be saved by rain; severest drought in twenty years. *Marion:* Ruined by drought; hundreds of acres will be ruined; in some places favored with showers condition may be 30. *Morris:* Will not be 25 per cent. of a crop; the worst drought ever known at this season. *Neosha:* Cut by drought; some fields will make nothing. *Ottawa:* Past hope of recovery on uplands; on bottoms and river and creek bends there may yet be a half crop. *Rice:* I am selling roasting ears in market every day; no rain since June 15, and yet there are some fields that look fresh and green. *Kearney:* Affected by drought. *Elk:* Will be half a crop unless rain soon comes. *Franklin:* Will be half a crop with rain soon. *Labette:* Will not exceed a half crop, with most favorable future conditions. *Lyon:* Half crop, from drought. *Marshall:* Half crop, from drought.

Nebraska makes a much better showing, but still bad enough, being four points lower than the general average. Still there were some local rains reported, and the possibility of improvement in such locations, especially in the area that was planted late.

The northern tier of States makes a better showing, Minnesota especially, the Dakotas and Wisconsin holding out a fair promise, and Michigan feeling the drought materially, but far less than the Ohio Valley.

SPRING WHEAT.

There has been a considerable reduction in the condition of spring wheat, amounting to fully eleven points. It is less in the Dakotas than in the other spring-wheat districts. The average of condition is 80 in Wisconsin, 80 in Minnesota, 87 in Iowa, 71 in Nebraska, and 88 in the Dakotas. The latter is a decline of six points, owing to hot southern winds, which affected the late sown more than the early.

The chinch-bugs and other insects have wrought more or less injury throughout the spring-wheat region. Wisconsin, Iowa, and Nebraska are giving little attention to wheat, in comparison with the early period of their settlement, leaving the production of spring wheat mainly to Minnesota and the Dakotas. A few voluntary observations of correspondents are appended.

WISCONSIN.—*Juneau:* Very little sown in consequence of injury by the chinch-bug. *Pierce:* A great deal has been injured by rust. *Marquette:* Injured by the hot, dry weather and by the chinch-bug also. *Waukesha:* Much of it destroyed by the chinch-bug and will not be cut. *Wood:* Looks well on high lands. *Manitowoc:* Injured by rust in some sections, in others by the weevil and chinch-bug. *Columbia:* Thinned out by the chinch-bug; some fields nearly destroyed: *Green Lake:* Prospect seriously lowered by the hot weather of June. *Monroe:* Damaged one-fourth by rust and blight. *Dane:* Greatly damaged by the dry, hot weather. *Dodge:* Injured by blight and the chinch-bug. *St. Croix:* The small amount grown here looks well. *Waushara;* Badly damaged by the chinch-bug. *Ozaukee:* Injured by the heat and dry winds of the latter part of June and of July. *Portage:* One week ago promised to be the best crop ever harvested here, but it has been attacked by the chinch-bug. *Walworth:* Much below the average in yield and quality. *La Fayette:* Hurt by the hot weather of June and in many places by the chinch-bug. *Marathon:* Damaged by the chinch-bug.

MINNESOTA.—*Kandiyohi:* Rust started by three days of hot weather July 13, 14-15; since then had hot south winds; the two have damaged wheat very much; har-

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vest comes a week earlier than it ought to, and the result will be shrunken grain. *Swift:* Ripening too quickly, because of dry and hot weather. *Kittson:* Reduced 10 per cent. on account of excessive heat that blighted the tops of most late wheat; 100° in the shade is more than the wheat can stand without harm. *Lac-qui-Parle:* Much hurt by hot winds; some heads one-half filled, and others two-thirds full; some parts of a field will be good, and elsewhere will be much blighted; harvesting just begun. *Douglas:* Condition lowered by blight; quality promises to be good, but yield is light. *McLeod:* Greatly injured by rust and blight. *Carver:* Reduced from 100 a month ago to 75 now by heat, rust, and chinch-bugs; harvest, July 28. *Isanti:* Condition lowered by drought early in spring, high winds, and burning days. *Fillmore:* Bugs are working in it to some extent. *Washington:* Much damaged by rust. *Morrison:* Somewhat damaged by chinch-bugs; otherwise would be above average. *Benton:* Looked well until July 20, when it began to look bad, owing to chinch-bugs and heat. *Big Stone:* Late wheat was parched by hot winds July 28, 29, 30. *Houston:* Rusted in some sections. *Nicollet:* Badly affected by rust and blight; a few chinch-bugs reported locally. *Nobles:* Rusted, but of rank growth, and promises a fair yield. *Lyon:* Low average is due to rust and high winds; high, hot winds caused blight. *Cottonwood:* Badly blighted. *Dakota:* Damaged by blight and rust; will grade No. 2 and 3. *Freeborn:* Reports from all parts of the county are that wheat has become rusted, blighted, and partly eaten by the chinch-bugs. But we will probably have a fair crop after all. *Goodhue:* Irregular and uneven. Early sown and on firm, clay land, it is quite good. On richer land and later sown it is much damaged by excess of heat; blighted and rusty; heads soft and imperfectly filled. *Olmsted:* Much injured by rust and blight. *Ramsey:* Being cut; somewhat rusty. *Renville:* Since July 1 rust attacked the leaves and very lightly the stalk, and during the last ten days heat and hot south winds blighted it considerably, especially on high and manured lands. *Rock:* Harvested. All early sown is good. *Wright:* A very heavy straw growth, but the heads are not filling well. Much shrunken wheat, and it is too late for any change for the better. Harvest has begun and many are disappointed.

IOWA.—*Fremont:* Grain was shrunk by the very hot and dry weather in July. *Dickinson:* Blighted by heat and draught. *Dubuque:* Damaged by rust and chinch bugs. *Chickasaw:* Rusted. *Hancock:* Blighted by hot winds. *Winneshiek:* Nearly used up by rust, blight, and bugs. *Harrison:* Damaged by rust and blight. *Boone:* Poor crop; grain shrunken from drought. *Sac:* Slight damage by rust and hot winds.

NEBRASKA.—*Douglas:* Harvested in fine condition and mostly in stack. *Harlan:* Many fields were not cut. That thrashed yielded from 1 to 4 bushels per acre. *Hayes:* Not a half crop. *Red Willow:* Excellent quality—60 pounds. per bushel. *Cheyenne:* Almost a failure, owing to drought. *Lincoln:* Yielding from 5 to 7 bushels per acre. Many fields are unfit to cut; 50 per cent. lost. *Gage:* Light yield, but good quality. *Gosper:* What could be was harvested. It was so short that a great deal was wasted. The berry was good.

DAKOTA.—*Barnes:* Reduced from 5 to 10 per cent. by drought and heat in past two weeks. With favorable weather it will be a good crop. *Benson:* Dried up and looks like hay. Some early sown has grain in it. Rain now can do but little good. *Morton:* Harvesting just begun. Hurt by hot winds and drought recently. *Hanson:* Blighted by heat and drought. *Hutchinson:* Fell in quality; much shrunken. Damage done by hot gales. *Battineau:* Will be but one-fourth of a crop unless rain comes very soon. *Campbell:* Prospect is shortened by excessive heat. For some unknown reason it suffered more than oats or barley. It is late, and it is difficult to set a percentage that may not be materially changed in the next report, as the grain is not far enough advanced to know whether the kernel will be plump or shrunken. *Shannon:* Being harvested. Though the plant looks good it turns out but little wheat. The continued drought is the probable cause, some yielding only two bushels per acre, and I do not believe it will average 5 bushels per acre for the county. *Jerauld:* Many fields will not be cut; cause, drought. *Turner:* Materially declined in July

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on account of drought, in some sections. *Deuel:* Early sown was never better, but the late wheat is seriously affected by the present drought. *Hand:* Shrunken and many acres not worth cutting, owing to drought.

WASHINGTON.—*Umatilla:* Excellent. *Klickitat:* Improved by cool, moist, west wind. *Lincoln:* Suffered slightly from hot weather, but is still far above the average. *Cowlitz:* Good season and prospect; harvest just begun.

OATS.

The condition of oats in June was not very high. Indeed it was the lowest June record since 1879. The first report of the season has usually been a good one. It is a crop not well suited to the climate of most of the States. In the South it can only be grown in winter.

Last month's report indicated a decline that threatened worse disaster later, which has followed. The decline from 89.8 in June to 81.6 last month, has now fallen to 70.1, which is the lowest condition ever recorded in these reports.

The failure of the oats crop on the Atlantic coast was due to the wet spring and late planting in the North, and in the South to the freezing of winter oats in March. The aphis became a destructive pest, followed by rust or blight. This insect was also destructive in the West, and was ably abetted in certain districts by the chinch-bug. To cap the climax of disaster, in the central West drought appeared in the critical period of ripening.

The States that have fallen below the general average are New Jersey, Maryland, Virginia, North Carolina, Georgia, Alabama, Texas, Arkansas, Tennessee, West Virginia, Kentucky, Ohio, Indiana, Illinois, Missouri, Kansas, and Nebraska. Condition is highest on the Pacific coast, and the States of the extreme East stand next in order.

SPRING RYE.

The condition of spring rye has declined during July, the general average now standing at 86.8 against 92.9 a month ago. The decline, while general in the States growing the spring grain, has been heaviest in Wisconsin, where there is a falling off of 11 points. The general average is the lowest ever reported except in 1887, when it was 84.6, and if opinions of correspondents are verified by the results of thrashing the yield will be much smaller than the normal.

OTHER CEREALS.

The preliminary returns of acreage show a small increase in the area devoted to buckwheat, the principal increment being shown in the States of the Atlantic coast and in the Ohio Valley, where it has to some extent occupied area originally intended for other crops. The first return of condition is very low for the entire breadth, the general average being only 90.1. Averages in States of principal production are: New York, 89; Pennsylvania, 92; Michigan, 86; Wisconsin, 95; and Iowa, 86.

As in the case of other cereals, barley shows lowered condition, the

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present average, 82.8, being a little more than five points below that of last month. The decline has been heaviest in portions of the Northwest and in Kansas, where the severe drought greatly injured the crop. In Wisconsin and California, where some 40 per cent. of the crop is grown, there is little change since July 1.

COTTON.

The cotton returns show slight advance in condition in the Carolinas, Tennessee, Mississippi, and Louisiana, a fall of one point in Georgia and Florida, of two in Alabama, four in Arkansas, and seven in Texas. The general average is 89.5. It was 91.4 last month.

Condition is therefore relatively high. The improvement in the Mississippi River bottoms is from rapid growth of late planting or submerged areas. A fair stand, vigorous growth, and abundant fruiting are generally reported. There are frequent references to droughts, in some instances of several weeks' duration, followed by sufficient rain-fall, in some cases by excessive rains. Yet there has been no general drought, and local estimates indicate small reductions of condition. One section of a county is reported dry, while another is too wet. Storms appear to have been quite local over portions of the cotton belt. Sandy soils have been benefited by rains which have damaged bottoms and clay uplands, and the drought which has scarcely wilted the plants in heavy soils has injured the crop in light lands.

There are frequent reports of superior promise, the best in several years; in one country in Georgia the best in thirty years. The only forms of injury reported are a tendency to drop leaves and fruit after sudden changes from dry to wet weather, and an occasional attack of rust. The caterpillar is not very prevalent, and has done little damage. The boll-worm is somewhat more formidable in the Southwest.

The averages of condition are as follows: Virginia, 93; North Carolina, 96; South Carolina, 95; Georgia, 94; Florida, 90; Alabama, 93; Mississippi, 90; Louisiana, 89; Texas, 82; Arkansas, 85; Tennessee, 93.

POTATOES.

The consolidated county returns of our correspondents makes the August condition of the potatoes the lowest ever reported. The July return, the first of the season, is always high, but this year it was low, slightly below that of any previous year, but high enough if it had been maintained to have insured an abundant crop. The weather during the month past has been extremely unfavorable in many sections of the country, and especially so in the districts of large supply west of the Allegheny Mountains. Drought more or less local, and varying in intensity, has prevailed in the Ohio Valley and in the States west of the Mississippi River. In some districts alternations of parching drought and excessive rain-fall have been experienced, baking the ground, inducing excessive growth, and then scalding the vines, and the good prospect of a month ago has been succeeded by a depressing outlook.

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Condition in the States lying east of the Allegheny Mountains from Maine to Georgia has been well maintained, and is now quite generally good. The season has been favorable, and blight, rot, and insect enemies are but rarely mentioned. The prospect is especially favorable in northern New England, New York, New Jersey, and Pennsylvania, where the averages differ little from those at the same date last year, though in portions of the Middle States the crop has suffered somewhat from drought.

The average condition for the crop of the whole country has fallen off 14.3 points during the month, and now stands at 77.4. Such a decline in one month is unprecedented, and illustrates the disaster which has overtaken the crop over a large district. The only approach to the present depressed prospect was in 1887, when the average declined from 93.2 in July to 80.8 in August and 61.5 at time of harvest, the average yield per acre being only about 57 bushels.

While, as a rule, slight decline is reported in nearly every section of the country, the main damage has been wrought in the States lying within the water-shed of the Mississippi River and its tributaries north of Tennessee and Arkansas. The falling off in some of these States is very heavy, and present condition indicates a comparative failure of the crop. Kentucky returns only 50, a falling off of 37 points during the month of July; Ohio 56, a loss of 32 points; Illinois 39, a loss of 50 points; Missouri 53, a loss of 32 points; Iowa 75, a loss of 21 points; Kansas 55, a loss of 26 points, and Nebraska 50, a loss of 35 points. The Pacific coast maintains the relatively high condition of a month ago.

FRUIT.

The prospect for both apples and peaches is poorer than it was a month ago. The intimation in previous reports that condition in New England and along our northern territory, returned high in early reports, would decline as the season advanced has been proven correct. The decline in those sections has been heavy, leaving their prospect but slightly better than that of the adjoining States. The causes which have operated to bring about the present low prospect have been noted in previous reports, unfavorable weather during winter and spring and the frosts of March. The present returns show that the results of the cold weather are still apparent in the blasting and dropping of immature fruit. The Pacific coast alone reports medium prospect, California standing at 78, Oregon at 83 and Washington at 90. Peaches on the slope are in poorer condition than apples, the California average being but 65.

As compared with other fruit the condition of grapes is comparatively high, especially so on the Pacific coast. In the States of the Atlantic coast present prospects point to a crop of medium proportions, though conditions vary locally in the same State.

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NOTES FROM REPORTS OF STATE AGENTS.

MAINE.

Corn is small and backward and will need favorable weather and a late fall to produce a full crop. Spring wheat is much below the average condition usual on August 1. It was sown late, and the only favorable weather for its growth was during the month of July. Rust is reported generally, especially on early sown oats, and the yield will be much below the average. Barley is late and the growth small.

In the older sections of the State, and near the large cities where a good market is afforded, early potatoes proved quite an average crop, considering the season, and they have been generally harvested. Correspondents from the great Aroostook section report potatoes as looking well, but fully two weeks later than the average. Colorado beetles are less numerous than they have been for several years. The hay crop was large, of excellent quality, and was secured in good condition. Pastures are in good condition—remarkably so for midsummer.

Apples are dropping badly. The blossoms blighted last spring to a greater extent than was thought at the time. The high winds have caused many to drop, and from every county the report comes that the yield will be light.

On the night of July 8, between 5 and 6 o'clock, a severe tornado or cyclone visited the central and northern central portions of this State. It was one of the most disastrous storms, for the short period of its duration, that has ever been known in Maine. Its course was through sections of Franklin, Kennebec, Somerset, Piscataquis, and Penobscot counties, extending into Washington at the extreme eastern part of the State, and also touching the edge of Waldo County. Its path was narrow and it traveled from southwest to northeast in a track almost across the State Buildings, especially barns, bridges, fences, trees, and chimneys, were demolished in a most promiscuous manner. The loss to farmers in crops, buildings, and orchards was very great. In some sections great destruction was visited upon orchards of apple trees, which it will take many years' growth to replace.

There was more than the normal precipitation during the first week of July. On the night of July 11 there was frost in several places in the State—in several instances killing beans and some garden crops. During the two weeks between July 13 and 24 the weather was very favorable for haying, and within this time the greater part of the crop was secured. Many farmers finished haying by the 24th and some even as early as the 20th. On the 25th and 26th there were copious rains throughout the State, which were very favorable to all growing crops, as in many sections it had become dry.

NEW YORK.

July has been an excessively hot month, with prevailing dry south winds. Corn has made a rapid growth, and on land which has been cultivated this crop promises well. There is an increased acreage of buckwheat, with prospects for a good crop. Potatoes are healthy, with signs of rot reported so far only in Queens County. The crop of hay is unprecedented in quantity and quality. Pasture is at a stand-still, and there is general complaint of cows falling off in milk yield. The growth of aftermath is very light. Apples are reduced in condition. They are dropping badly and are poor in quality. Grapes have grown well and are rated higher. In the valley of the Hudson the black-rot is threatening.

PENNSYLVANIA.

Owing to excessive rains much of the corn was quite late in being planted, and in some sections the dry weather of the past month has materially retarded its growth and reduced the prospects. Some injury is also reported from local hail-storms

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Oats headed better than was anticipated, but on account of the disease affecting it since the middle of May, it did not stool out well, and is thin on the ground, short in the straw, chaffy and very uneven in ripening, which indicates much light grain.

Potatoes have been quite free from bugs this year, but some blight is reported. Tobacco will be short in the stalk, and as a consequence will have fewer leaves and a light yield. Timothy hay is the best and largest yield in many years. Clover is not so good. Fruit is the most complete failure for many years.

VIRGINIA.

Corn has fallen several points in condition since July 1, in consequence of the dry weather in the greater portion of the State during the months of June and July. The rains, which have been quite general in the last ten days, will probably counteract much of the damage done to the late corn, but they came too late for the early corn. The yield of oats has fallen somewhat below the expectations of last month. Late Irish potatoes have been seriously injured by drought, and sweet potatoes are also reported rather below the rate of last month. Timothy is about the same as reported in July. Clover did not yield as abundantly as last year, but its quality is excellent; the same can be said of all hay, the weather having been very favorable for curing and saving it. Pastures, especially in eastern Virginia, have been cut short by the dry weather. In the southwestern portions of the State they are good. Apples are poor—not half a crop, and peaches are a complete failure. Grapes are a fair crop.

GEORGIA.

A fairly good yield of corn is now assured. The season during the latter half of July had the effect of maturing the early and middle crop, and the late planted is now vigorous and almost secure.

The recent rains have caused the grass in the corn fields and small-grain-stubble lands to spring up and grow with great luxuriance, and the pea crop, which is largely converted into hay, is very promising. This plant (cow-pea) is steadily growing in favor as a renovating and forage crop, and the area is increasing yearly. It has been found by experience that the fertility of our soils can be indefinitely maintained by sowing peas in every corn field and after wheat and oats, without losing a year to our staple crops—corn and cotton—while at the same time the vines yield a very sweet and nutritious hay, scarcely inferior to the best clover hay. Pastures are now in a very fine condition.

Cotton is in fine condition, as a general rule. The weather has been too wet and cloudy for the past two weeks, but the rains have been light and frequent, rather than heavy.

Sugar-cane and sorghum are both becoming more and more promising under the genial influence of abundant warm rains. The same is true of the sweet-potato crop, although the area was somewhat restricted by the drought which generally prevailed through June.

MISSISSIPPI.

The corn crop is exceedingly fine in some portions of the State, while in others it is badly injured by drought, there having been no general rain for seven weeks. The oats crop was never better, and it was housed in good condition. A fine crop of hay has been gathered. Pastures were never better. Cotton is good generally; the plants being well bolled and growing finely. The boll-worm has just appeared in two or three localities. Apples and peaches are practically a failure.

LOUISIANA.

Flattering reports of the average condition of crops have been received from nearly every quarter of the State. As a rule the corn crop is good, with the exception of that on lands overflowed in the spring. A large and increased area has been planted

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in sweet-potatoes. Very little red clover is grown, Lespedeza being the main stay. This was badly damaged by the spring freeze. Pastures are far better than is usual at this season of the year, due to timely rains.

Correspondents report cotton, as a rule, in good condition and growing fast. There are some complaints of shedding. The boll-worm and caterpillar are reported in very limited numbers in localities widely divergent. On lands lately under water the weed is reported rather small and the growth somewhat checked by low temperature at night. Sugar-cane is also considerably above an average, the crop promising better results than for many years.

The rice harvest is now in progress. Shipments have already been received at New Orleans. The present indications are that the crop will exceed the largest ever grown in the State. The stand is good and the increase in acreage considerable.

TEXAS.

A good crop of corn is now matured. The condition of spring wheat indicates about half a crop; oats about three-fourths of a crop. Both Irish and sweet potatoes have done well. Pastures are excellent. Cotton was in danger of being cut short by drought which prevailed for some time, but recent rains have assured a fair crop. It is now opening and in some localities being picked out.

ARKANSAS.

Up to July 10 the weather was too wet and for a time greatly interfered with planting and cultivation. Since that date extreme and continuous hot weather, accompanied by drought in many sections, has prevailed, seriously affecting the growth and maturing of all farm products with the exception of cotton. The corn crop has been greatly injured by drought, and that late planted will prove almost a failure. The total yield will be far short of the crop of last year. All kinds of small grain have been harvested. The winter wheat is reported below the average in both quantity and quality. The oat crop is short; will not amount to more than half an average. The quality is poor.

Early Irish potatoes have been harvested and yielded an average crop. The late planted have been seriously injured by the drought, and condition indicates not more than half a crop. Sweet-potatoes are doing fairly well, but are also needing rain.

The hay crop has been harvested in good condition, and in point of yield and quality is above an average. Pastures, for the past ten days, have commenced to show the effects of heat and drought, and are rapidly deteriorating in condition. The average at this season of the year is, however, more than maintained.

The condition of the cotton crop has continued to improve during the past month. It is, as a rule, free from grass and weeds, and the plants are in fine growing condition—blooming and fruiting heavily in many localities, and comparatively free from disease. The presence of the boll-worm has been reported in several localities, but so far no serious damage has resulted. Apples and peaches are nearly a failure.

KENTUCKY.

The western portion of the State has a severe drought, including the Lower Green River section to the southwestern border. The drought has been seriously felt all over the State, but rain on the 23d of July was timely and has greatly restored the crops in central and eastern Kentucky. The ground broke up cloddy and clammy, and the plant food has not been assimilated; the crops are uneven. Corn is tasseling low, and on poor land in droughty sections is almost a total failure; on good land, where cultivation has been thorough and the rain-fall normal, corn and all crops are looking fairly well. Tobacco is badly missing in the hill, and much of it is yet in the clods.

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OHIO.

Corn, in the southern half of the State, and through some of the best growing regions, has been badly injured by drought. For six weeks no rain has fallen. The northern half of the State promises better, but the ground is in bad condition, and corn weedy, because of too much rain early in the season. The harvest of clover and wheat came early and kept farmers out of the corn field. The succeeding dry weather has made the ground too hard to work and the consequence will be a short crop of poor corn.

Oats were struck by blight or rust and the dry, hot weather prevented the grain from filling—resulting in a very poor crop. Potatoes show a poor stand generally. Early growth spindling, and the drought has checked growth of tubers. The crop will be but little more than half an average.

The hay crop was heavy and was saved without rain. Pastures are rapidly failing.

Apples are a failure. The greater part of the crop has fallen off, and fruit is still falling. There will be only a few seedlings and of poor quality.

MICHIGAN.

Corn has fallen off many points since July 1, in consequence of the extreme dry weather prevailing over a large portion of the corn-producing part of the State. A good rain might give the State from half to three-fourths of a crop, while a continuance of the drought another week will entirely ruin the crop of the southern four tiers of counties.

The first week of July, the northern part of the lower peninsula and a portion of the thirteen central counties had a fair amount of rain—enough to keep their crops growing and in good condition. During the second week but little rain fell in the State, but in the third and the fourth week the same section was again favored with moderate and timely rains. During all of this time the southern counties have had no rain, except in the counties of Cass and Berrien. While these conditions have been very favorable for securing the wheat and oats and an immense crop of hay, it has been ruinous to corn and potatoes.

The same conditions have cut short the crop of oats and barley. The extreme heat has had a tendency to prematurely ripen both, resulting in a heavy decline since last report.

Potatoes have declined rapidly, and under the most favorable circumstances the crop will be very light.

The hay crop has been harvested in excellent condition, many farmers having secured a large crop without even a shower upon it. Young clover was a good catch, but is now suffering for want of rain, and another week of drought will prove very disastrous. The quality of both timothy and clover is excellent.

Pastures, like corn, are in a precarious condition. A good rain would revive them, but another week of dry weather will ruin them. The condition of apples and peaches is steadily declining, and neither of them will make near half a crop.

ILLINOIS.

The mean temperature of July was above the normal. There was more than an average amount of sunshine and less than an average amount of precipitation. On the 1st of July the crops in most parts of the southern division and in a few localities in the central division were beginning to show the effects of dry weather. The drought then reported has not only continued with but slight interruptions in these sections, but has extended with greater or less severity over the entire State. Every correspondent reports the lack of rain, and many say the drought is the severest known in years.

Corn can not exceed three-fourths of an average yield per acre even under the most favorable conditions of temperature and moisture, and may fall greatly short of that, unless we have a general rain very soon. The condition of oats is much lower than

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that reported July 1. Then the crop was promising in the northern division, but the extremely hot weather and the rust prevented the heads filling out and the grain is light and chaffy.

In the central division the ravages of the plant-louse and hot weather have reduced the yield to about half an average crop. In the southern division more than one-third of the counties report the oat crop an entire failure, and in the remaining counties of this division the estimates are from 5 to 30 per cent. of an average crop.

Irish potatoes will not make half an average yield. In some of the southern counties they are now retailing at $1.50 per bushel. Meadows produced nearly a full crop of hay of good quality, saved generally in fine condition. Pastures are short usually, and in some instances farmers are compelled to sell off some of their stock before it is in a marketable condition.

Apples continue to drop off, in consequence of the hot winds and dry weather. Grapes are doing fairly well.

WISCONSIN.

The excessive moisture of June prevented the working of corn, and most of it is very weedy, although maintaining rapid growth. The dry weather of the past month has injured it slightly. Spring wheat is damaged to quite an extent by rust and chinch-bugs, and the hot days and scorching winds of the last part of July. Oats are also rusted and blighted in many localities, and it is feared that the crop will prove, when the thrashing season is over, to be lighter than had been anticipated. Both wheat and oats ripened prematurely, owing to the dry weather of the past month.

Potatoes, buckwheat, and tobacco are also being seriously injured by the hot, dry weather, and tobacco has suffered further injury from light hail-storms which have visited the southern counties of the State.

MINNESOTA.

The corn crop is as forward as usual at this season of the year. We are now in the midst of the wheat harvest. Rye, oats, and barley are in the shock. There are large yields of small grain in some sections, and in other sections yields that are not up to an average, but for the State the yield is a fair average. The rust and blight appeared some fifteen days since in a few counties, which has had the effect of lessening the large average we expected a month ago.

IOWA.

The average condition of corn has fallen 4 or 5 per cent. since July 1, owing to the unabated drought in the southern part of the State, and even in some parts where rain has been sufficient the corn is not earing well. The conditions have been varying, but the present indications are that one-half of the State, or more, will produce an average crop, while the remainder will fall below.

Wheat and oats ripened very rapidly and were harvested in excellent condition, but the rapid ripening produced by high temperature following June rains caused considerable blight and some rust. The yield of oats is light, but of good quality. The season has been very favorable for haying. The timothy crop was reduced in yield by insufficient rain in the early spring, but clover revived, and both were secured in fine condition. Native grass is also good. Pastures generally are dry and greatly in need of rain. Late potatoes have been severely injured, and the yield will be light.

The northwest quarter of Iowa has a large flax area, and the prospect is good for a heavy crop.

MISSOURI.

The mean temperature for the month of July was about one degree above the normal. There was a cool period on the 4th and 5th, and again from the 18th to the 25th, and an excessively warm period from the 6th to the 17th. The precipitation for the month was about 2½ inches below the normal. Nearly all of the rain occurred

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between the 13th and 23d, during which time heavy local showers fell, but the rain was unevenly distributed, some localities having an excess while others received very little. The drought which began in June and extended until about the middle of July, together with the excessive heat, was very injurious to all crops, so much so that the rains of the second and the third week of July, and the lower temperature accompanying, were not sufficient to overcome the damage done. The last week of the month was one of limited rain-fall and high temperature, which did further injury to the crops.

The corn crop, particularly that planted early and not well cultivated, has suffered seriously from the dry weather. Many such fields are a total failure. The quite general rain that fell about the middle of July had a very beneficial effect on the late planted portion of the crop, but even with the most favorable conditions prevailing from now to the maturing, it must necessarily be short.

Information received up to date from all sources confirms former estimates of the extent of the damage done to the oats crop by the grain aphis. A very large acreage of the crop was not harvested at all, while much that was harvested will not return the seed sown. Much of the grain is proving to be light in weight. The drought extending to the middle of July has had the effect of materially reducing the acreage of buckwheat, and that sown does not show a good condition.

The crop of early potatoes is short, but conditions are more favorable for the late planted. Tobacco has suffered seriously from unfavorable conditions, which commenced before the planting was begun. The crop will be short in acreage and light in yield. Hay has been secured in an unusually fine condition, owing to the absence of rain during harvesting, but the yield is light. Pasture had become so dry before rain fell that many farmers were feeding their stock. Apples, peaches, and grapes still promise poorly as a result of the early spring frosts and the hot, dry weather of the summer. Only a small crop will be secured.

KANSAS.

The extreme dry weather and intense heat during the month of July largely decreased the condition of all growing crops. The greatest injury was done to the corn crop. Twenty-seven counties report an average condition from 50 to 80 per cent., thirty-two from 25 to 50 per cent., twenty-one from 10 to 25 per cent., nine from 1 to 10 per cent., and the remainder an entire failure. The counties showing the highest condition lie chiefly between the Missouri border and the 97th meridian, in which section the corn crop of the State in the main will be harvested.

At no time in the history of the State have the depredations of noxious insects been so light; insufficient rain-fall, with hot winds and burning sun seems to be the sole cause of damage.

SOUTH DAKOTA.

Corn is suffering from dry weather, and while there is a good growth of stalk, fears are entertained that the ears will be deficient in number and size. The condition of spring wheat is many points below that reported July 1, owing to lack of rain and to dry, hot winds from the south—that sown late suffering much more than the early sown. The same may be said of oats, except that they have suffered much more than wheat. The early sown will make a full crop, but the late sown is seriously affected. Grain plowed under when seeded is in better condition than that sowed broadcast—being put in deeper it has withstood the drought better. Barley has improved since last report. It was too far advanced to be injured by the dry weather and the absence of rain has allowed the grain to ripen in excellent condition. The berry is unusually full and bright.

Potatoes have suffered slightly from drought, but the crop will not be seriously injured, as it is too far advanced. Hay of all kinds is a full average crop. It was too nearly matured to suffer from the drought, and the dry weather has been favorable for the harvest. Pastures are beginning to show the want of rain, but their condition on July 1 was so excellent that feed is as yet abundant.

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Table showing the average condition of crops August 1, 1890.

States and Territories.	Corn.—Average condition August 1.	Spring wheat.—Average condition August 1.	Spring rye.—Average condition August 1.	Oats.—Average condition August 1.	Barley.—Average condition August 1.	Buckwheat.		Potatoes.		Tobacco.—Average condition August 1.	Hay.			Pasture.—Average condition August 1.	Cotton.—Average condition August 1.	Sorghum.—Average condition August 1.	Sugar-cane (not sorghum).—Average condition August 1.	Apples.—Average condition August 1.	Peaches.—Average condition August 1.	Grapes.—Average condition August 1.
						Acreage compared with last year.	Average condition August 1.	Solanum tuberosum.—Average condition August 1.	Batatas edulis, sweet.—Average condition August 1.		Acreage compared with last year.	Product of clover compared with a full crop.	Average quality of clover hay, 100 standing for high quality.							
Maine	80	84	95	76	87	110	98	92	.....	.....	.....	99	99	100	.....	.....	.....	65	.....	87
New Hampshire	85	81	95	75	80	98	82	94	.....	.....	100	94	99	95	.....	.....	.....	77	86	88
Vermont	87	82	90	75	86	101	98	93	.....	.....	100	97	98	91	.....	.....	.....	64	.....	76
Massachusetts	92	.....	95	78	88	101	98	85	.....	95	100	98	99	83	.....	.....	.....	40	48	82
Rhode Island	95	.....	.....	73	84	.....	89	90	.....	.....	100	97	96	88	.....	.....	.....	47	38	70
Connecticut	95	.....	.....	74	79	.....	89	95	.....	92	100	99	96	92	.....	.....	.....	26	18	60
New York	83	.....	.....	65	70	103	89	88	.....	90	100	99	99	90	.....	.....	.....	35	21	85
Pennsylvania	84	.....	.....	61	.....	102	97	90	.....	.....	100	99	99	90	.....	.....	.....	25	15	80
Delaware	84	.....	.....	62	70	102	92	87	83	82	100	95	98	92	.....	53	.....	21	20	68
Maryland	79	.....	.....	70	.....	100	93	83	81	.....	95	97	99	74	.....	80	.....	45	.....	77
Virginia	83	.....	.....	43	85	100	96	80	93	68	100	95	96	80	.....	80	.....	27	15	61
North Carolina	92	.....	.....	61	81	101	94	80	93	90	95	90	96	87	93	87	.....	38	18	75
South Carolina	93	.....	.....	68	.....	110	94	90	93	97	96	92	93	93	96	95	.....	40	18	82
Georgia	90	.....	.....	74	80	.....	.....	95	96	.....	98	91	93	93	94	94	.....	41	20	86
Florida	90	.....	.....	75	.....	.....	.....	93	95	.....	91	90	96	96	90	91	.....	38	16	75
Alabama	87	.....	.....	63	.....	.....	.....	86	94	.....	98	96	96	94	93	81	96	40	18	71
Mississippi	85	.....	.....	78	.....	.....	.....	88	95	.....	98	96	96	91	93	93	94	40	21	76
Louisiana	95	.....	.....	90	.....	.....	.....	90	98	.....	90	98	99	95	89	89	93	30	15	75
Texas	76	.....	.....	60	74	.....	.....	86	85	.....	97	97	99	97	89	89	100	40	15	75
Arkansas	72	.....	.....	59	.....	.....	.....	90	96	.....	87	90	96	96	82	83	84	45	18	64
Tennessee	72	.....	.....	41	90	125	90	93	79	80	93	96	98	90	85	86	89	56	29	70
West Virginia	78	.....	.....	51	.....	102	80	83	81	75	100	96	98	96	98	98	.....	44	21	75
Kentucky	67	.....	.....	26	71	105	90	50	87	80	96	94	96	93	70	70	.....	19	6	52
Ohio	66	.....	.....	63	88	101	87	56	74	63	100	97	98	86	.....	71	.....	35	20	76
Michigan	76	.....	.....	63	85	96	86	75	96	.....	97	95	98	83	.....	75	.....	20	10	71
Indiana	70	.....	.....	60	87	93	68	50	70	53	100	93	97	70	.....	70	.....	40	43	85
Illinois	71	.....	.....	60	89	98	73	39	58	75	95	87	94	66	.....	66	.....	40	30	72
Wisconsin	88	90	84	53	78	99	95	90	.....	82	98	96	96	94	.....	85	.....	42	35	78
Minnesota	96	80	97	92	93	101	87	87	62	.....	93	95	93	90	.....	91	.....	80	.....	91
Iowa	85	80	95	88	90	99	96	75	73	76	93	94	95	75	.....	80	.....	65	30	80
Missouri	73	.....	.....	60	79	95	76	53	73	.....	88	83	90	64	.....	73	.....	70	28	81
Kansas	43	.....	.....	67	65	56	70	55	70	.....	82	70	91	57	.....	62	.....	60	40	76
Nebraska	69	71	81	70	75	102	80	50	73	.....	67	65	81	62	.....	60	.....	67	65	65

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STATISTICS OF CANADA.

The Statistical Year Book of Canada for 1889, compiled and edited by Mr. S. C. D. Roper, of the Department of Agriculture at Ottawa, contains a large fund of statistical information and other data relative to the Dominion. From this official report, and from data derived from other equally reliable sources, a statistical presentation of the progress and position of our sister government has been made up.

The Dominion of Canada comprises the provinces of Quebec, Ontario, Nova Scotia, New Brunswick, Manitoba, British Columbia, Prince Edward Island, and the Northwest Territories, covering an area of about 3,519,000 square miles, of which 140,000 is water surface. This estimate of area differs somewhat from that put forth in other official documents, but it is the latest prepared by the Department of the Interior, based upon the most recent surveys, and probably as nearly correct as any statement can be until much more complete surveys and measurements are possible. The Dominion comprises the whole northern half of North America, except Alaska on the west, and Labrador, which belongs to the government of Newfoundland, on the east. In extent of territory it is nearly as large as the States. The area of the whole continent of Europe exceeds it by less than 250,000 square miles. Such a comparison, however, is of little significance, as a very large proportion of this vast territory lies in a cold, inhospitable climate, not suitable for habitation of civilized man, along the shores of the Northern Ocean and portions of Hudson Bay, though a parliamentary committee in 1888, after investigation, reached the conclusion that a much larger portion of this northern territory was available for settlement than was popularly supposed.

The area of the Dominion is so great, that its general features of soil and climate are wonderfully varied, ranging from smiling and fertile agricultural areas to barren wastes, and from meteorological conditions resembling those which prevail over the the British isles to those of the Arctic regions. Vast forests once covered practically the whole of Canada from the Atlantic Ocean to the northwest boundaries of the province of Ontario, and the face of the country in some districts is yet heavily wooded, the wealth of timber being one of the principal resources of many of the Provinces. The soil underlying this virgin forest has been found very fertile and well adapted to a varied agriculture. Between Ontario and the Rocky Mountains the country is naturally divided into three great divisions or plateaus, running from northwest to southeast. The first of these plateaus or steppes comprises the valley of the Red River and Lake Winnipeg district, and lies entirely in the province of Manitoba. The width of this division at the national boundary line somewhat exceeds 50 miles, the average height above the sea-level is about 800 feet, and it is estimated to contain about 7,000 square miles, the greater portion of which is unsurpassed

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as wheat land. The second plateau, with an average altitude of some 1,600 feet and a width at the boundary line of 250 miles, contains an area of about 105,000 square miles. Like the first, this is eminently suited to a diversified agriculture, and settlement is rife. The third plateau comprises the whole country westward from the 104th meridian to the foot of the Rocky Mountains. It really comprises the gently rising foot-hills of the great mountain system, the elevation gradually increasing from 2,000 feet at the eastern boundary to 4,200 feet at its western. This district is best suited for pasturage and grazing, and already extensive cattle ranches and ranges have been established.

The vast territory lying north of a line drawn from the most northern limit of Ontario westward to the Rocky Mountains is extensively wooded, and has generally been considered valuable only as a preserve for the native fur-bearing animals. The parliamentary committee already referred to, however, included in its investigations about 1,260,000 square miles of the southern portion of this territory, and reached the conclusion that some three-fourths of it was suitable for settlement. In that district there are some 2,750 miles of navigable rivers, nearly half of this mileage navigable for light-draught ocean steamers. The surface of British Columbia, which occupies the rough country extending from the Rocky Mountains to the Pacific Ocean, is broken, consisting of short ranges, detached mountain groups, and fertile valleys. The climate is mild, and since the opening of the Canadian Pacific Railroad, settlement is active and agriculture progressive.

The common impression that the climate of the whole of the Dominion is very severe is erroneous. In the far north it is, of course, inhospitable, but in the settled districts the summers, while comparatively short, are hot and forcing, with abundant sunshine and moisture; and the winters, though cold, have a dry and bracing atmosphere, both healthy and enjoyable. The city of Toronto is situated in almost the same latitude as Rome and Constantinople, while Ottawa and Montreal are in the latitude of northern Italy. The greater part of France, Germany, and Austria lie north of the settled portions of eastern Canada. A comparison of latitudes, however, of Europe and America, is not fairly indicative of climatic differences.

The natural industries of Canada might perhaps be classed by provinces, as: In Prince Edward Island, agriculture, fishing and ship-building; in Nova Scotia, coal and gold mining, ship-building, agriculture, lumber, and fishing, the fisheries of this province being claimed as the most valuable and productive of the world; in New Brunswick, ship-building, lumbering, agriculture, and fishing; in Quebec, agriculture, ship-building, lumbering, fishing; and mining; in Ontario, agriculture, lumbering and mining; in Manitoba and the territories, agriculture and stock-raising; in British Columbia, mining, lumbering, agriculture, and fishing.

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No census of the population of the Dominion has been taken since April 4, 1881, when it aggregated 4,324,810, an increase of 18.97 per cent. during the preceding ten years. The increase during the period was quite uniform in the older provinces, but in those comprising the newly settled districts it was naturally very large. In Manitoba it amounted to 247.2 per cent., the population of the province increasing in ten years from 18,955 to 65,954. That this rapid increase of settlement has continued is shown by the provincial census of 1886, showing for Manitoba a population of 108,640, while that of the territories had more than doubled in five years. The census of 1881 returned 1,390,604 persons as engaged in some occupation, or slightly more than one-third of the total population. The proportion is almost exactly the same as the census of 1880 returned for this country, and the figures show that among the people of both countries there are very few drones in the national hive. The classification of occupations in the Dominion census is not so complete as in that of this country, 205,228 or 14.8 per cent. of all occupied being returned as having occupations, but not classified. Leaving out this indefinite group for the sake of instituting a comparison between the occupations of the two countries, and it appears that the proportion engaged in the different occupations according to our classification is:

Occupations.	Canada.	United States.
Agriculture	55.9	44.1
Trade and transportation	9.1	10.4
Industrial	24.2	22.1
Professional and domestic	10.8	23.4

This statement would seem to show that the distribution of the workers of the two countries in trade and industrial pursuits was in about the same proportion, while there was marked disparity in the proportions engaged in rural and professional pursuits. Considerably more than half of the Canadian population is dependent upon the bounty of the soil, a proportion too large for that harmonious development of resources necessary to insure the highest national prosperity.

The native or Indian population in 1881 was 108,547, while in 1888, according to the department of Indian affairs, it had increased to 124,589, but it is believed that much of this increase is more apparent than real, owing to faulty enumeration. The tendency of this native population is toward the adoption of at least elementary principles of civilization, and the steady increase of the number of pupils in the various Indian schools is a hopeful sign of progress. The government gives every possible assistance to those who remain upon their reservations, supplying them with seed, implements, cattle, and all things necessary to farming, besides appointing inspectors to superintend operations and instruct the Indians in the first principles of agriculture.

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The number of immigrants into Canada during recent years is larger in proportion to total population than the number received into the United States. The records kept by the department of agriculture show that during the year 1889 the whole number of immigrants arriving was 176,462, of whom 91,600 declared their intention of becoming Canadian settlers, the remainder being en route to this country. The number of immigrants settling in Canada for recent years were, in 1885, 79,169; in 1886, 69,152; in 1887, 84,526; in 1888, 88,766. Since April, 1888, no assisted passages have been granted, but it would appear that the abandonment of the policy of assistance has not checked the arrivals, though it is possible that a better class of settlers has been obtained. The number of arrivals by sea at the principal ports is without doubt fairly accurate, but it is not possible to record the ebb and flow of population across the extended frontier line of the States, and as a consequence no reliable statements of emigration or of net immigration can be presented.

AGRICULTURE.

Canada is essentially an agricultural country, much the larger portion of her people being directly dependent upon the soil. It is as remarkable as it is unfortunate that the government has never undertaken the regular collection of agricultural statistics for the Dominion as a whole, this important work having been left to the government of the different Provinces. It may be in consequence of this lack of interest upon the part of the central government that some of the Provinces prepare no statistics whatever while those of others are only fragmentary. For Ontario and Manitoba alone are the annual records at all complete. The staple products are wheat, barley, oats, pease, corn, hay, potatoes, turnips, and live stock, but the total lack of data of production for some provinces makes it impracticable to present detailed estimates of the crops of the Dominion. It appears that the annual wheat crop amounts to between 35,000,000 and 40,000,000 bushels, of which Ontario and Manitoba grow much the largest proportion. The crop of last year was estimated at 33,000,000, these two Provinces producing 26,000,000, though the yield in each was considerably below the normal. The soil of these districts is admirably adapted to the cultivation of this cereal, the average yield per acre in Manitoba being especially good. The fields of this Province adjoin, and are much similar to the magnificent wheat districts of the Red River Valley in Dakota, and the natural productiveness of this district is hardly excelled by any wheat fields of the world, unless it be New Zealand, though by intensive farming a larger yield is obtained in Great Britain. While settlement is new and land is fresh and cheap, but little attention is paid to intensive farming, and yet in spite of wasteful systems and careless methods an average of five years past shows a yield per acre in Manitoba of 20.6 bushels for wheat; 33.7 for oats; 25.8 for barley, and 20.5 for potatoes.

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Oats make up the largest bulk of the grain crops of the Dominion, this cereal flourishing best near the northern limit of its habitat. There is an average yield per acre of nearly 35 bushels in the Provinces, for which a record is kept, and in 1889 the product amounted to more than 60,000,000 bushels. As in the case of our leading cereal in this country, corn, this crop is raised for the home demand, the foreign shipments being very small. Barley is the cereal grown for foreign markets, the soil and climate being admirably adapted to its cultivation. The yield per acre in Ontario and Manitoba averages about 25 bushels, and the grain is of superior quality. In 1889 these provinces produced about 21,000,000 bushels, but there is nothing to indicate the amount grown in other districts, though the whole product of Canada has been roughly estimated at 28,000,000. That the crop is grown for foreign shipment is shown by the fact that while Ontario raised 23,000,000 bushels in 1888 she exported during the following fiscal year, practically from that crop, nearly 10,000,000 bushels. The United States is the great market for Canadian barley, brewers of this country showing a marked preference for it over the domestic product, even at a considerably higher price. It is the only cereal which this country finds it necessary to purchase abroad, though for a number of years it has yielded the largest money return per acre of any cereal crop grown by our farmers. The statistics of commerce between Canada and the States, as published by the two Governments, occasionally vary considerably, the ease of intercommunication and extended boundary line through a settled country rendering it difficult to keep any exact records, but taking the Canadian figures the following table is made up, showing the total shipments of home-grown barley during five years past and the amount of that total taken by the United States:

Years.	Total exports.	Taken by United States.
	Bushels.	*Bushels.*
1885	9,067,395	9,628,314
1886	8,554,302	8,528,287
1887	9,456,964	9,437,717
1888	9,370,158	9,360,521
1889	9,948,207	9,934,501

This statement shows that practically the whole shipment of barley is made to this country. Our own customs returns make the amount received even larger than the Canadian record of exports, they showing our receipts of last year to have been 11,365,881 bushels, or nearly 1,500,000 bushels more than shown in the table presented. The tendency among our farmers to pay more attention to the cultivation of this crop, and to varieties experimented with, is noted and appreciated in the official report under consideration. It is claimed that signs of a failing market in this country are already apparent, and as a consequence the Canadian Government is stimulating experiments with the varieties which are demanded by the markets of Great Britain. The present

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product is made up almost entirely of the six-rowed, but as the two-rowed only is wanted in England the government has distributed this year 10,000 bushels of this variety among farmers at cost price, with a view to cultivating the English trade.

Live-stock interests form an important item in Canadian agriculture. No exact figures of total numbers of the different classes of farm animals in the Dominion are at hand, but it was estimated that in 1888 the Dominion had 1,099,279 horses, and 3,791,908 cattle. The exportation of animals and other products make up a large feature of the foreign trade of the country. During the sixteen years, 1874 to 1889, the exports of horses were 227,500 head, valued at $25,055,470; of cattle, 1,092,893, with an aggregate value of $55,815,989; and of sheep, 4,967,284, worth $17,649,290. This makes the aggregate value of the three classes of live-stock sent abroad in sixteen years $98,520,749. In 1889 the exports of animals and their products, the produce of Canada, amounted to $23,894,707, the principal items being:

Live animals	9,262,637
Cheese	8,915,684
Eggs	2,159,510
Hides, etc	462,371
All other	3,094,505
Total	23,894,707

The foreign cattle trade may be said to have had its inception in 1872, and up to 1880 this country was the leading market In that year, however, Great Britain passed us in numbers purchased, and has since been the largest market. In connection with the live-stock trade of each country, the customs records bring out clearly the different character of the trade of each. Great Britain purchases beasts worth $80 per head, while the average value of those shipped to this country is only about $20. The first are high-grade beeves bought for slaughter, the latter common stock bought for the purpose of breeding upon, or for farm use. Commercial regulations of Great Britain are so arranged as to foster the trade in Canadian cattle, the regulation requiring that cattle shipped from the United States and European ports be slaughtered upon landing being suspended in the case of shipments from the Dominion. This privilege makes it possible to ship store cattle to be fattened after arrival, and has resulted in a steadily enlarging trade, from 69 head in 1874, to 60,000 in 1889. Sheep are exported in large numbers, the United States purchasing the larger part of the total shipments, though, as in the case of cattle and probably for the same reason, the value per head of those going to Great Britain is much greater. Cheese forms a large item in the exports of agricultural products, the sales of last year amounting to nearly $9,000,000; but the shipments of butter are insignificant and declining. Eggs are shipped almost entirely to the United States, and the aggregate value of the trade is large, exceeding $2,000,000 in 1889. Ontario furnishes the greater part of the supply.

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The total value of animal and agricultural products exported in 1889 was $37,308,818, out of a total value of all domestic produce exported of $77,201,804. The proportion of agricultural exports is smaller than in this country, the cause being the large shipments of forest products.

FOREIGN TRADE.

The foreign trade of Canada is larger per capita of population than that of the United States, the total trade of 1889, imports and exports, amounting to $40.27 per head, against about $23 per capita for this country. The differences in totals, however, are of course very large. In 1889 the total foreign commerce of Canada, including gold and silver, amounted to $204,414,098, of which imports made up $115,224,931 and exports $89,189,167, while in this country the aggregate, including bullion, was $1,613,137,633, composed of exports $839,042,908 and imports $774,094,725. A peculiar feature of the Canadian trade is the fact that in but one year during the past twenty-two has the value of exports equaled those of imports, the balance of trade being against the Dominion for that period to the extent of $452,438,565, or an average of $20,565,389 per annum.

Unlike Great Britain, which has capital invested in all quarters of the globe and receives immense dividends each year in the shape of imported commodities, swelling her imports to proportions much in excess of her exports; Canada is not a creditor nation, and this steady adverse balance of trade, upon its face, would seem to indicate a gradual impairment of her wealth and resources. As it is hardly possible that she is continuing to get deeper in debt, another solution must be sought. It is the experience of the United States, and the same may be true of the Dominion, that while immigrants may bring goods and property of small value individually, the aggregate is large, and even if such goods as are landed as personal effects are not included among national imports, property, and money in large aggregates are received by settlers after they have located, being capital not immediately available at the time of migration. Such introduction of capital by settlers would necessarily be classed among national imports, and under such circumstances an excess of imports would represent the increasing wealth of a young and developing country; just as in Great Britain imports of dividends represent the steady accumulation of wealth in an old country possessing enormous foreign investments.

The foreign trade is carried on almost exclusively with the United States and Great Britain, the imports and exports to and from these two countries during 1887 and 1888, amounting to 88 per cent. of the aggregate. A larger proportion of the exports alone went to these two countries, the proportion for the same years amounting to 91.52 per cent.; Newfoundland, South America, and the West Indies took 5.95

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per cent., leaving only 2.53 per cent. to be divided among the remaining countries of the world. The trade with the United States alone amounts to almost half the total, and yet according to the official figures of this country, our trade with Canada constitutes only about 6 per cent. of our total. During 1889, by Canadian figures, our exports to the Dominion exceeded our imports therefrom by $12,846,536, while the balance of trade in favor of Great Britain was only $4,144,429 for the same year.

The exports of Canada are almost entirely made up of what might be called the natural products of the country, manufactured articles forming but a small portion of the whole. In 1889 the values of exports of domestic produce under each classification were:

The mine	$4,419,170
The fisheries	7,212,208
The forest	23,043,007
Animals and their produce	23,894,707
Agricultural products	13,414,111
Manufactures	4,434,949
All other	3,854,304
Total	80,272,456

This statement shows that the products of the soil, agricultural, animal and forest products, amounted to 75 per cent. of the total. The largest portion of the products of the mine, the fisheries and agriculture go to the United States, and of products of forests and animals to Great Britain. Barley forms the largest agricultural item sent to the United States.

This country, by the official records, ranking first in both the import and export trade of Canada, the following tables prepared from the reports of the Bureau of Statistics of the Treasury Department, giving an itemized statement of the trade exclusive of bullion for 1889 will be found interesting. The exports are of domestic merchandise only, and the aggregate will not therefore agree with the statement heretofore made of imports into Canada from this country. That statement includes goods of both foreign and domestic produce. Aside from this, however, as before mentioned, the figures of trade and commerce, as presented by the two governments, do not agree very closely, on account of the failure of customs officers on both sides of the line to correctly record all merchandise crossing the border. For the year under consideration, 1889, it so happens that both exports and imports as recorded by the United States authorities are smaller than the returns of the Dominion government, and the balance of trade is made by each government to appear against itself.

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Items.		Quantity.	Value.
EXPORTS.			
Agricultural implements		.....	$132,550
Animals living		.....	546,778
Breadstuffs		.....	9,393,727
Coal	tons..	1,870,119	5,357,295
Cotton, raw	bales..	61,505	2,980,556
Hides and skins		.....	451,171
Iron and steel, and manufactures of		.....	2,383,147
Leather and manufactures of		.....	344,485
Illuminating oil	gallons..	4,838,779	479,499
Provisions		.....	6,876,682
Tobacco, leaf	pounds..	3,843,473	732,810
Wood and manufactures		.....	2,624,311
All other articles		.....	6,076,043
Total		.....	38,279,044
IMPORTS.			
Animals living		.....	5,199,713
Barley	bushels..	11,365,881	7,721,475
Coal	tons..	434,741	1,842,466
Copper and copper ore		.....	313,934
Eggs	dozen..	15,370,061	2,345,715
Fish		.....	2,765,521
Flax	tons..	2,168	329,545
Hay	do...	105,220	1,081,882
Malt, barley	bushels..	136,256	100,314
Tobacco, leaf	pounds..	816,197	421,795
Wood and manufactures of		.....	11,852,488
Wool	pounds..	1,108,226	218,224
All other articles		.....	7,746,139
Total		.....	41,949,221

ARGENTINE STATISTICS.

In a recent bulletin of the Argentine department of agriculture is a statistical statement, based mainly on a partial census taken in 1887, prepared for circulation in France at the Paris International Exhibition of last year by Dr. D. Francisco Latzina, from which the following facts are collated:

The Argentine Republic dates its existence from the year 1810. It is bounded on the north by Paraguay and Bolivia; on the east by Paraguay, Brazil, Uruguay, and the Atlantic Ocean; on the south by Beagle Channel, which separates it from the Chilian islands south of Terra del Fuego;* and on the west by the crest of the Andes, which separates it from Chili.

CLIMATE.

Extending through thirty-three degrees of latitude† it necessarily embraces a variety of climates. The northern provinces and the territories of Chaco and Missiones are hot, the extreme south may be considered cold, and the intermediate region, embracing the larger part of

* This appears to claim for Argentina the whole of Terra del Fuego, whereas the treaty of 1881 gave the western and southwestern portions to Chili.

† It extends from the 22d to the 55th degree of south latitude and from the 54th to the 72d of west longitude.

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the country, is temperate. The seasons, as compared with those of Europe (and North America), are of course inverted.

The following table gives the mean temperature by months, together with the annual mean, for a number of places selected to represent different geographical districts in degrees reduced from Centigrade to Fahrenheit:

Seasons and months.	Places with their geographical positions.						
	Salta, lat. 24° 46′, lon. 65° 23′.	Tucuman, lat. 26° 50′, lon. 65° 11′.	Corrientes, lat. 27° 27′, lon. 58° 49′.	Rosario, lat. 32° 56′, lon. 60° 36′.	Buenos Ayres, lat. 34° 36′, lon. 58° 22′.	Viedma, lat. 40° 50′, lon. 62° 40′.	Islade los Estados, lat. 54° 23′, lon. 63° 47′.
SUMMER.	*Degrees F.*	*Degrees F.*	*Degrees F.*	*Degrees F.*	*Degrees F.*	*Degrees F.*	*Degrees F.*
December	71.2	73.9	81.1	72.5	73.0	71.8	46.4
January	72.0	77.9	81.7	75.6	75.6	75.7	49.8
February	71.4	76.8	84.4	75.2	74.1	72.3	47.8
AUTUMN.							
March	66.7	72.5	78.6	71.2	70.3	68.4	46.8
April	63.5	67.1	72.9	63.7	62.8	58.3	43.5
May	58.6	57.9	62.1	57.0	56.5	48.4	39.6
WINTER.							
June	53.4	48.0	56.5	51.8	52.3	42.3	35.6
July	54.1	58.1	64.9	52.9	50.0	46.0	36.5
August	58.5	61.0	67.3	57.9	53.6	48.0	37.8
SPRING.							
September	61.5	66.6	70.5	58.3	57.0	50.5	37.6
October	65.1	68.0	71.6	63.7	62.4	58.5	40.1
November	70.2	71.6	76.5	68.9	68.4	61.5	41.4
Annual average	64.0	66.6	72.3	63.0	63.1	58.5	41.9

There are no epidemic diseases which prevail permanently, and scarcely any of periodical occurrence, either along the coast or in the Andean provinces. Only in Tucuman and Salta do certain fevers, known by the local name of *chucho*, commonly prevail during some of the summer months.

The changes of temperature are frequent and rapid, amounting at times to 36 degrees (Fahrenheit) in a single day. These changes commonly occasion heavy rains and strong winds, which restore the atmospheric equilibrium. In spite of such variations, the climate of the Republic is considered one of the most salubrious in the world.

Throughout the whole region of the coast the rains are frequent and abundant, but they diminish as the distance from the sea increases, and the central provinces are so dry that irrigation is essential to successful agriculture.

The following table contains data as to rain-fall derived from observations made in 1888:

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Quantity of rain in inches.

Places of observation.	Summer.	Autumn.	Winter.	Spring.	The whole year.
Isle de los Estados	12.48	12.76	9.80	13.78	48.82
Bahia Blanca	4.72	2.95	2.68	4.92	15.24
Mar del Plata	8.48	6.61	6.81	13.74	35.55
Buenos Ayres	5.16	6.50	13.07	15.94	40.67
Rosario	4.65	3.66	3.35	16.22	27.87
Corrientes	5.91	8.19	4.41	18.27	36.77
Cordova	8.35	2.72	.35	9.45	20.87
Uspallata (Mendoza)	3.86	1.18	4.33	.83	10.20
San Juan	2.52	.....	.04	.91	3.46
Rioja	.....	.35	.24	5.47	6.06
Tucuman	13.62	8.39	2.80	18.62	33.43
Salta	9.92	.....	.....	14.33	24.25

As the above figures refer only to one year, which may have been exceptionally rainy at some of the points of observation, and perhaps, exceptionally dry at others, the following table for places in which observations have been made for many years will afford a better indication of the average rain-fall:

Average rain-fall, in inches.

Places of observation.	Summer.	Autumn.	Winter.	Spring.	Annual average.
Buenos Ayres (1861 to 1877)	9.17	9.87	6.14	8.86	33.54
Rosario (1875 to 1880)	11.77	14.41	6.93	12.83	45.94
San Juan (1875 to 1880)	1.46	1.97	.20	1.77	5.39
Mendoza (1875 to 1880)	1.93	3.50	.83	2.05	8.31

The sky is generally clear, and in Buenos Ayres the number of days when it is entirely clouded does not exceed sixty in a year. The prevailing winds are those from the northeast, south, and southeast, those from the west and southwest being of very rare occurrence.

Snow is unknown on the coast in the northern part of Buenos Ayres, and is very rare in the southern part of the same province. It is only in the Andean provinces and on the high levels of the mountain ranges that it falls every year.* As to the summits of the Andes, their altitude is such that their snowy mantle is never laid aside.

SURFACE AND HYDROGRAPHY.

As regards its surface, the Argentine territory comprises two great and entirely distinct geological formations. The vast level plains known as the pampas, which rising by insensible degrees, extend from the coast far into the interior, are covered with abundant pasture and furnish substance for the millions of cattle, sheep, and horses which form the chief wealth of the country. The other great formation is that of the Andes and is rich in minerals.

Other mountain systems are found in portions of the Argentine territory, but may be regarded as outlying spurs of the main range.

* This statement can not apply to Patagonia.

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Such are the mountains of Cordova and San Luis and the numerous ridges in Patagonia, some of which extend to within a comparatively short distance of the Atlantic coast. There are also, both in the northern and southern parts of the province of Buenos Ayres and in the territory of Missiones, various ridges belonging to other geological formations, which relieve the monotony of the plain and contain minerals of value, including calcareous rocks, marble, and porphyry. Broadly speaking the country is level in the east and mountainous in the west, the elevation and abruptness increasing as the Chilian frontier is approached.

In respect to its river system, the Argentine Republic is highly favored, especially in the northeastern part of the country, where the Parana and the Uruguay, with their numerous tributaries, unite to form the sea-like Rio de la Plata. Before entering the Parana, its principal tributary, the Paraguay, receives from the northwest the waters of the Pilcomayo and the Vermejo, and from the same direction the Salado enters the Parana lower down. South of the mouth of the Plata the Colorado and the Negro, whose upper branches take their rise in the Andes, are the largest of the numerous rivers which disembogue in the Atlantic. Besides the rivers, there are numerous lakes and lagoons which contribute to fertilize the Argentine territory and facilitate its settlement.

A large part of the Argentine rivers are navigable, and the Plata, Uruguay, Parana, and Paraguay bear upon their waters thousands of sailing and steam vessels every year. The more southern streams, such as the Colorado and the Negro, are also navigable at certain seasons for vessels of light draught.

FLORA AND FAUNA.

The flora of the republic is very rich and varied, as might be expected in the case of a territory extending from within the torrid zone to the rigorous climate of Terra del Fuego, and from the sea-level to the crest of the Andes.

Within these limits are cultivated, or found in a wild condition, almost every kind of food plant, timber, and raw material of industry. The forests of the Chaco territory cover thousands of square miles, and contain treasures of natural wealth as yet unexplored, but forming vast reserves for the use of a future population. Farther to the south, and especially on the flanks of the mountain ranges, there are also great virgin forests, in which abound pines, araucarias, and all the sylvan vegetation of the temperate zone. The rich and abundant exhibit of woods, vegetables, and cereals made by the republic at Paris in 1889 is cited as an irrefutable proof of the great variety of the Argentine flora.

Relatively speaking the fauna of the country is as varied as its flora. In the north the great forests of Chaco, Missiones, and Tucuman contain every species of animals belonging to the torrid zone. The center supports the great herds of live stock for which the country is famous,

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while in the south the wild fauna, including birds of temperate and cold climates, again predominates. Insects are abundant in the north, but this inconvenience is diminished as the distance southwards increases and as the country is brought under cultivation by settlement.

GOVERNMENT—AREA—POPULATION—IMMIGRATION.

The Argentine nation is a federal republic, with a government similar to our own. Its present constitution, adopted in 1853, guaranties liberty of worship and of transit through, entry into, residence in, or departure from the national territory.

It also confers the liberty to trade, to prosecute any lawful industry, to teach or learn, and to hold any kind of property. It makes all inhabitants equal before the law, and recognizes neither pre-eminence of birth nor titles of nobility. Foreigners enjoy the same rights as natives, with the advantage of not being subject to military service. A foreigner can acquire citizenship by the sole fact of having resided two years in the country, or by marrying an Argentine woman, while his children, if born in the country, are Argentines under the law.

The increase of population has been remarkably rapid, especially since 1853, in which year the country began to receive foreign immigration. At the beginning of the present century, the population inhabiting the vast territories now embraced in the republic was estimated at not more than 400,000. In 1850 it amounted to about 1,000,000, and in 1869 the first national census stated it at 1,877,490. The present population is probably a little over four millions.

The following table shows the area and estimated population at the close of 1888 by provinces and territories:

Provinces and territories.	Area.		Population.
PROVINCES AND THE CAPITAL.	*Square kilometers.*	*Square miles.*	
Capital of the Republic	181	70	500,000
Buenos Ayres	311,196	120,165	800,000
Santa Fé	131,562	50,809	300,000
Entre-Rios	75,457	29,137	250,000
Corrientes	81,148	31,334	200,000
Cordova	174,767	67,484	350,000
San Luis	75,917	29,314	100,000
Mendoza	160,813	62,096	120,000
San Juan	97,505	37,650	100,000
La Rioja	89,030	34,378	80,000
Catamarca	90,644	35,001	100,000
Santiago	102,357	39,524	180,000
Tucuman	24,199	9,344	200,000
Salta	128,266	49,538	200,000
Jujui	45,286	17,487	70,000
NATIONAL TERRITORIES			
Missiones	53,954	20,834	200,000
Formosa	115,671	44,665	
Chaco	124,834	48,203	
La Pampa	144,919	55,959	
Neuquen	109,061	42,120	
Rio Negro	212,163	81,924	
Chubut	247,331	95,504	
Santa Cruz	276,910	106,998	
Terra del Fuego	21,048	8,127	
Total	2,894,259	1,117,583	3,750,000

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Within recent years the proportional increase of population through immigration has been larger in the Argentine Republic than in any other nation. The number of immigrants arrived since 1857, stated by decades down to 1886, inclusive, is as follows:

Years.	Immigrants. arrived.	Years.	Immigrants. arrived.
1857–1866	80, 570	1888	155, 632
1867–1876	399, 791	1889	289, 014
1877–1886	617, 962		
1887	120, 842	Total in thirty-three years...	1, 663, 811

The large increase of immigration in 1889 may be explained as the result of a new law offering increased inducements and assistance to immigrants.

Of the total number of immigrants arrived from 1857 to 1888 inclusive,* 65.3 per cent. were Italians; 14.6 per cent. Spanish; 9.3 per cent. French; 2.3 per cent. English; 1.8 per cent. Swiss; 1.7 per cent. Austrians; 1.5 per cent. Germans; 0.8 per cent. Belgians, and the remaining 2.7 per cent. of various other nationalities.

Of the passengers landing in the country the law classes as an immigrant every foreign laborer, mechanic, farmer, or teacher under seventy years of age who, having given satisfactory evidence as to his character and fitness for employment, arrives as a third or second class passenger on a sailing vessel or steamer, or has his passage thereon paid by the Government or by a private colonization agency, and whose purpose is to settle in the republic.

The number of foreigners domiciled in the country is estimated at about 600,000.

A census of Buenos Ayres taken in September, 1887, showed that there were then 228,641 domiciled in that city, and the number outside the city in the province of the same name was estimated at some 200,000 more. The province of Santa Fé, according to an enumeration made in the same year, had 84,215, and it is supposed there were from 80,000 to 90,000 more scattered over the remainder of the country, making in all about the number above mentioned (600,000).

AGRICULTURE.

Previous to 1810 agriculture neither did nor could exist in the territories which now form the Argentine Republic, the cultivation of the principal cereals being then forbidden under Spanish law, with a view to compelling the colonists to obtain their breadstuffs from Europe.

* With the exception of 384,605 who entered the country via Montevideo without classification.

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With the establishment of independence in the year named grain began to be cultivated a little, but it is only since the inauguration of the constitutional era (in 1853) that agriculture has begun to assume a certain importance. Indeed, it was not till many years later that the product of cereals was sufficient for domestic requirements, and the first year in which there was a surplus for exportation was 1878. After that time cereals and certain other agricultural products—as distinguished from the products of the pastoral industry—began to be known in foreign markets as forming a portion of the exports of the republic.

The following table shows by provinces and territories the area of cultivated land in the Argentine Republic and the percentage which this land is of the total area:

Provinces and territories.	Area under cultivation.		Percentage of total area.
PROVINCES.	*Hectares.*	*Acres.*	
Buenos Ayres	932, 591	2, 304, 432	3.1
Santa Fé	586, 537	1, 449, 333	5.9
Entre-Rios	136, 151	336, 429	1.7
Corrientes	46, 631	115, 225	1.3
Cordova	234, 395	579, 190	0.5
San Luis	19, 869	49, 096	0.2
Mendoza	88, 546	218, 797	0.5
San Juan	79, 715	196, 976	0.8
La Rioja	22, 217	54, 898	0.2
Catamarca	44, 618	110, 251	0.5
Santiago	120, 400	297, 509	1.2
Tucuman	35, 943	88, 815	1,5
Salta	40, 256	99, 473	0.3
Jujui	18, 994	46, 934	0.4
TERRITORIES.			
Missiones	4, 606	11, 382	0.1
Formosa	648	1, 601	.....
Chaco	3, 623	8, 953	.....
Pampa Central	5, 764	14, 490	.....
Rio Negro	1, 291	3, 190	.....
Total	2, 422, 995	5, 987, 221	1.1

From this it appears that but little more than 1 per cent. of the surface of the country is as yet under cultivation. Of the provinces, Santa Fé, with nearly 6 per cent., ranks highest, and Buenos Ayres, with 3.1 per cent. second, no other province having as much as 2 per cent., and only Entre-Rios, Tucuman, Corrientes, and Santiago having more than one.

The following table shows the areas under the various crops, with the percentage which each one forms of the total crop area. The figures are those collected in the agricultural and live-stock census of October, 1887:

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Crops.	Areas cultivated.		Percentage of total crop area.
	Hectares.	*Acres.*	*Per cent.*
Wheat	815,438	2,014,947	33.7
Maize	801,583	1,980,712	33.0
Alfalfa	390,009	963,712	16.1
Flax	121,073	299,171	5.0
Barley	28,672	70,849	1.2
Vines	23,345	57,685	1.0
Sugar-cane	21,062	52,044	2.0
Potatoes	14,137	34,933	
Peanuts	6,794	16,788	
Kidney beans	6,775	16,741	
Manioc	4,742	11,717	
Sweet potatoes	3,757	9,284	
Canary-seed	3,456	8,540	
Tobacco	3,234	7,991	
Oats	2,371	5,859	
Rice	1,286	3,178	
Vegetables and various crops	175,261	433,070	7.0
Total	2,422,995	5,987,221	100

It will be seen from the above table that wheat and maize together occupy about two-thirds of the total area under crops. In respect to wheat the province of Santa Fé takes the lead, having 401,652 hectares (992,482 acres) or over 49 per cent. of the total wheat area. Buenos Ayres comes next with 246,788 hectares (609,813 acres) or over 30 per cent. of the whole area. The remaining provinces fall far behind these two, Entre-Rios, which comes next in order, having 67,319 hectares (166,345 acres), Cordova, 55,777 hectares (137,825 acres), San Juan 12,245 hectares (30,257 acres) and the rest from 6,976 hectares (17,238 acres) in Mendoza down to 7 hectares (17.3 acres) in the Territory of Missiones.

In respect to maize Buenos Ayres is far in the lead, having more than five-eighths of the whole area under that grain. The figures for that province and such others as have more than 10,000 hectares are given below:

Provinces.	Area.	
	Hectares.	*Acres.*
Buenos Ayres	510,071	1,260,385
Cordova	78,999	195,207
Santa Fé	60,901	150,486
Entre Rios	47,208	116,651
Corrientes	26,795	66,210
Tucuman	17,295	42,736
Salta	13,840	34,199

The small area under rice is found mainly in the northwestern provinces of Tucuman and Jujui; the former having 766 hectares (1,893 acres) and the latter 416 hectares (1,028 acres). Salta has 7 hectares (17.3 acres), and the Territory of Missiones, in the extreme northeast, the remaining 97 hectares (240 acres).

Of the 121,073 hectares under flax, Santa Fé has 73,009 hectares (180,405 acres), Buenos Ayres 43,899 hectares (108,474 acres), and Entre-Rios 4,159 hectares (10,277 acres); that is, the whole crop, with the exceptions of a few hectares, is grown in these three provinces.

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Potatoes and kidney beans are grown in almost all parts of the country, though the total areas under these crops are but small.

In the cultivation of the vine San Juan and Mendoza hold the highest rank, having together more than half of the total area.* The former has 7,119 hectares (17,591 acres), and the latter 6,740 hectares (16,655 acres), while Santa Fé has 2,565 hectares (6,338 acres). In the remaining provinces the areas range from 10 hectares in Jujui to nearly 2,000 in Santiago and Catamarca, respectively.

Of the area under sugar-cane Tucuman,† one of the northwestern provinces has nearly one-half. The only provinces having more than 1,000 hectares under this plant are those mentioned by name below:

Provinces.	Areas.	
	Hectares.	*Acres.*
Tucuman	10,594	26,178
Santiago	2,925	7,228
Santa Fé	2,676	6,612
Corrientes	2,018	4,986
Other provinces and territories	2,849	7,040
Total	21,062	52,044

The "other provinces and territories," mentioning them in the order of their areas under cane, include Jujui, Missiones, Chaco, Salta, Formosa, and three others, which together have only a dozen hectares.

Of the small area under tobacco (7,991 acres) Cordova and Corrientes have each somewhat over one-third. Tucuman, Entre-Rios, Jujui, and Missiones are the only other provinces or territories having over 100 hectares each.

Small as is its present area, the expectation is expressed that tobacco will at no distant day become an export of considerable importance. The same expectation is expressed in regard to rice, which at present is even less cultivated than tobacco, and in regard to cotton, of which the whole reported area now consists of 12 hectares (about 30 acres) in Corrientes.

* These two provinces lie among the eastern ridges of the Andes, between 30° and 35° of south latitude.

† Under the caption "*Tucumanzucker*" (Tucuman sugar) the Vienna Handels-Museum, of July 17, 1890, refers to the increasing prominence of this article in the market of Buenos Ayres, and presents some facts recently furnished in a report from the Austro-Hungarian consulate in that city. The report stated that there were 35 sugar manufactories whose centrifugals, numbering in all 327, had an aggregate capacity of producing 627,000 kilograms (1,382,274 pounds) of sugar daily, in connection with which are also obtained 90,000 liters (23,775 gallons) of alcohol. Their total product of sugar for 1889 is estimated at 35,000,000 kilograms (77,161,000 pounds), valued at 10½ million pesos. They worked up the cane from 6,566 hectares (16,225 acres). This appears to have been furnished by 12,700 producers, showing that as yet it is cultivated on a small scale. Two other establishments, larger and of greater producing capacity than any of those in operation, are in course of erection.

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Up to this time vegetables have been cultivated only for home consumption.

The principal forage crop is alfalfa, along with which are grouped barley and oats, instead of being presented among the cereals. Of the 2,371 hectares (5,859 acres) of oats all except 15 hectares is found in Buenos Ayres. The following are the figures by provinces and territories for alfalfa and barley, the latter as well as the former being apparently regarded only as a forage crop:

Provinces and territories.	Alfalfa.		Barley.	
PROVINCES.	*Hectares.*	*Acres.*	*Hectares.*	*Acres.*
Buenos Ayres	93,800	231,780	9,687	23,937
Santa Fé	29,551	73,021	4,033	9,966
Entre-Rios	6,307	15,585	2,242	5,540
Corrientes	1,585	3,917	127	314
Cordova	77,585	191,713	7,665	18,940
San Luis	5,989	14,799	420	1,038
Mendoza	69,496	171,725	593	1,465
San Juan	55,589	137,360	698	1,725
Rioja	4,697	11,606	24	59
Catamarca	9,308	23,000	.....	.....
Santiago	15,178	37,505	.....	.....
Tucuman	2,763	6,877	509	1,258
Salta	14,202	35,093	1,747	4,317
Jujui	2,693	6,654	499	1,233
TERRITORIES.				
Missiones	9	22	3	7
Formosa	17	42	1	2
Chaco	133	329	.....	.....
Pampa Central	880	2,174	86	213
Rio Negro	207	511	368	909
Total	390,009	963,713	28,672	70,849

Of rye the whole area reported is 268 hectares, all grown in Buenos Ayres.

In addition to the areas under field crops, there were 36,125 hectares (89,265 acres) under cultivated trees. Of this area 18,786 hectares (46,420 acres) were in the province of Buenos Ayres, and 12,031 hectares (29,729 acres) in Santa Fé, leaving only 5,308 hectares (13,116 acres) for all the other provinces and the territories. Among the fruit-trees most largely cultivated are the peach, pear, damson plum, apple, and in the north the orange.

It has been stated under the head of climate that the quantity of rain-fall diminishes as the distance from the Atlantic increases, until finally irrigation becomes essential to successful agriculture. The following figures show the area irrigated, or suitable for irrigation by the construction of canals, so far as reported in the Census:

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Provinces and territories.	Area.	
	Hectares.	*Acres.*
Provinces:		
Buenos Ayres	115,351	285,632
Corrientes	18,893	46,685
San Juan	79,715	196,976
La Rioja	13,491	33,336
Catamarca	24,237	59,890
Tucuman	74,648	184,455
Salta	96,321	238,009
Jujui	67,271	166,227
Territories:		
Misiones	92	227
Pampa Central	58	143
Rio Negro	1,440	3,558
Total	*492,417	1,216,762

* The actual sum of the items given above is 491,517 hectares (1,214,538 acres).

Agricultural settlement in the Argentine Republic has within recent years been promoted by legislation having in view the formation of agricultural colonies. The first of these were established in Santa Fé and met with a degree of success which encouraged the formation of others, first in that province, then in Cordova and Entre-Rios, and finally in Chaco, Mendoza, and the province of Buenos Ayres, in which agricultural industry had already attained considerable development, and which now took pains to promote the establishment of colonies by a special law, known as the law of agricultural centers. In 1889 there were 352 such colonies in full operation, of which 204 were in Santa Fé, 60 in Buenos Ayres, 50 in Entre-Rios, 31 in Cordova, 5 in Chaco, and 2 in Formosa. Besides these there were many others in process of formation.

Of agricultural implements the census reports 160,693 plows, 16,669 reaping machines, 818 steam-threshers, and 62,851 carts.

There were also 824 mills, including 143 moved by steam, 308 moved by water, 237 moved by wind, and 136 moved by draft animals.

Buenos Ayres and Santa Fé are best supplied with agricultural implements and mills, especially the last-named province, which has nearly one-half of the threshers and steam-mills and one-third of all the reaping-machines in the Republic.

Although agriculture in the Argentine Republic has thus far attained but a small comparative development, it is not difficult to perceive in the immense immigration of recent years, coupled with the vast extent of the available territory as yet untouched by the plow, how great are the possibilities of its early future, unless the progress of settlement and industrial development shall be checked by political disturbances. The following comparison between 1877 and 1887 in respect to the quantities of some of the leading agricultural products exported in those two years respectively shows how rapid must have been the growth in agricultural production during the intervening decade.

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Products.	Quantities exported in tons of 1000 kilograms (2204.6 pounds).		Products.	Quantities exported in tons of 1000 kilograms (2204.6 pounds).	
	1877.	1887.		1877.	1887.
Wheat	200	237,866	Flax	.....	81,208
Flour	218	5,401	Potatoes	3	191
Maize	9,818	361,844	Bran	2,355	4,194
Barley	.....	820	Hay	6,722	12,375

The chapter on agriculture in the census summary from which the above facts are taken, concludes with the following general comment:

The Argentine Republic is a country of immense extent, of agreeable climate, and of fertile soil, which by its actual productions shows that it is capable of economically producing all kinds of vegetable products, and that, as not more than the one hundredth part of its territory has been brought under cultivation, it offers a vast field for the activity of the agriculturists who, from all parts of the world, may come to populate it.

Attention is called to the fact that the territories of Neuquen, Chubut, and Santa Cruz made no returns on either agriculture or live-stock; and although they may as yet have little to return, owing to the sparsity of their population, they would add something to some of the totals above presented, and no doubt still more proportionally to those under the next caption, since it is in the early stages of settlement that the pastoral industry most preponderates over agriculture.

LIVE-STOCK.

The census of Buenos Ayres, taken in 1881, furnished the numbers of animals of different species in that province, but there had been no general census of the live-stock of the entire country previous to that of October, 1887, whose results are summarized in this article. The various statements on this subject that have been given out from time to time have, therefore, been only estimates, and while the official figures now published may be more or less defective owing to the difficulties of a first attempt at such an enumeration, in a country so sparsely peopled as the greater part of the Argentine territory is, they have a far better title to credence than any of the figures on the same subject heretofore published.

NUMBERS OF THE PRINCIPAL SPECIES OF ANIMALS.

The following table shows by provinces and territories the total number of animals of each of the principal species, as well as the grand total of each species for the whole country:

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Provinces and Territories.	Sheep.	Cattle.	Horses.	Goats.	Asses and mules.	Swine.
PROVINCES.						
Buenos Ayres	51, 557, 750	8, 482, 483	1, 691, 192	10, 198	31, 058	208, 088
Santa Fé	2, 977, 382	2, 328, 443	528, 536	13, 310	7, 766	58, 530
Entre Rios	4, 901, 123	4, 120, 068	719, 510	13, 846	6, 518	23, 522
Corrients	611, 085	1, 841, 455	268, 699	16, 603	13, 506	10, 021
Cordova	2, 335, 030	2, 110, 523	403, 879	630, 264	47, 197	22, 253
San Luis	241, 827	478, 904	113, 554	310, 491	27, 769	6, 844
Mendoza	122, 298	180, 009	44, 849	50, 847	11, 184	6, 552
San Juan	62, 670	54, 530	25, 848	25, 347	21, 154	3, 625
Rioja	57, 932	160, 197	25, 038	108, 188	30, 824	5, 252
Catamarca	152, 432	239, 834	56, 054	190, 806	89, 402	10, 962
Santiago	781, 951	582, 396	110, 368	308, 993	27, 498	13, 693
Tucuman	43, 390	198, 835	42, 939	26, 299	14, 805	7, 129
Salta	256, 695	267, 225	34, 174	84, 567	39, 693	7, 194
Jujui	617, 803	89, 855	22, 896	77, 975	46, 425	2, 358
TERRITORIES.						
Missiones	4, 218	41, 967	17, 541	3, 279	1, 096	3, 961
Formosa	143	14, 403	625	50	44	437
Chaco	3, 751	17, 551	1, 597	500	365	892
Pampa Central	1, 670, 393	469, 775	110, 104	12, 467	1, 140	2, 147
Rio Negro	287, 940	77, 434	16, 620	715	50	864
Tierra del Fuego	282	148	9	10	.....	33
Total*	66, 701, 097	21, 963, 930	4, 262, 917	1, 969, 765	430, 940	403. 203

* Not one of these totals agrees with the sum of the figures above it. The results obtained by addition are as follows: Sheep, 66,706,095; cattle, 21,762,035; horses, 4,234,032; goats, 1,884,755; asses and mules, 417,494; swine, 393,758. There is no means of determining whether the discrepancies arise from errors in the totals themselves or in some of the figures for the provinces or territories.

There were 177,055 ostriches, of which 154,022 were in the province of Buenos Ayres, 10,077 in Corrientes, 4,787 in the Territory of Pampa Central, and the remainder scattered through various provinces and territories.

There were 47,738 llamas, of which all except 500 credited to Catamarca were in the Province of Jujui, where they are used as beasts of burden.

The following statement shows the comparative numbers of cattle, horses, mules and asses, sheep, and swine in the Argentine Republic, and several others which rank high in the number of their live stock. Where practicable, the numbers are given for about the same time to which the figures for the Argentine Republic refer. Those for the United States, although credited to a different year, refer to a date less than three months later than those for Argentina.

Countries.	Year.	Cattle.	Horses.	Mules and asses.	Sheep.	Swine.
Argentine Republic	1887	21, 963, 930	4, 262, 917	430, 949	66, 701, 097	403, 203
Australasia*	1887	8, 966, 326	1, 440, 424	.....	97, 912, 272	1, 207, 840
Austria-Hungary	1880	13, 895, 455	3, 541, 810	83, 364	13, 679, 473	6, 881, 668
France	1887	13, 395, 259	2, 908, 527	623, 854	22, 880, 190	5, 978, 916
Germany	1883	15, 786, 764	3, 522, 545	9, 795	19, 189, 715	9, 206, 195
Great Britain and Ireland	1887	10, 639, 960	1, 936, 925	.....	29, 401, 750	3, 720, 957
India†	.....	60, 206, 499	1, 002. 281	1, 181, 592	26, 889, 327	518, 709
Russia in Europe	1883	28, 628, 031	17, 860, 792	.....	46, 724, 736	9, 361, 9?0
United States	1888	49, 234, 777	13, 172, 936	2, 191, 727	43, 544, 755	44, 346, 525

*The numbers in the several divisions of Australia form an aggregate for that island continent of 7,916,620 cattle, 1,222,574 horses, 79,679,235 sheep, and 783,862 swine.

† The dates for India are 1877-'78 and 1885-'86, the former for Mysore and the Central Provinces, and the latter for the rest of the country. The Indian figures on cattle include buffaloes, and those on sheep include goats.

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This table shows that Argentina is surpassed in respect to cattle by India, Russia, and the United States, in respect to horses by Russia and the United States, and in respect to sheep by Australia. In respect to mules and asses and swine its numbers are comparatively small.

Of cattle, sheep, and horses, as distributed into classes, there were the following numbers:

Classes of animals.	Cattle.	Sheep.	Horses.
Work animals	962,699	.....	1,047,769
Range stock:			
Common	17,574,572	24,317,214	2,951,182
Mixed breeds	3,388,801	42,002,867	259,009
Pure breeds	37,358	381,016	4,957
Total	21,963,930	66,701,097	4,262,917

Of mules there are reported 116,700, and of asses 47,887, work animals, making together 164,587 work animals out of a grand total of 430,940.

Of pure breeds there were 1,617 goats and 3,594 swine, and of mixed breeds 15,469 goats and 88,678 swine; while of ostriches there were 2,119 imported African birds and 25,406 obtained by crossing the African bird with the indigenous one, the remaining being of the indigenous variety.

The figures for work animals and animals of pure and mixed breeds, as given above, are somewhat lower than they should be, and those for common range animals somewhat higher in consequence of some provinces having made no returns except as to the total number of animals of each species. For the provinces of Santa Fé and Entre Rios animals of pure are reported with animals of mixed breeds; thus somewhat increasing the figures for the latter at the expense of those for the former.

In the matter of improved stock, Buenos Ayres takes a leading position. Of the total number of cattle this province has less than 39 per cent., while of the pure breeds it has nearly 93, and of the mixed breeds over 89 per cent. Of the total number of horses it has less than 40 per cent., while of the horses of pure breed it has nearly 96, and of those of mixed breeds it has over 90 per cent. Of the total number of sheep it has a larger proportion, namely, over 77 per cent., but its proportion of the improved stock is over 92 per cent. for the pure and over 91 per cent. for the mixed breeds. To put the matter in another form, 14.1 per cent. of its horses, 36.1 per cent. of its cattle, and 74.6 per cent. of its sheep are of improved breeds, while for the Republic at large the corresponding figures are, respectively, 6.2, 15.6, and 63.5 per cent.

In the number of animals per square mile Entre Rios occupies the first rank in respect to cattle, while Buenos Ayres take the lead in respect to sheep.

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The average weight of beef cattle on the coast is from 125 to 150 kilograms (276 to 331 pounds) for cows, and from 200 to 250 kilograms (441 to 551 pounds) for oxen. The average weight of sheep is from 20 to 25 kilograms (44 to 55 pounds) for ewes and from 30 to 35 kilograms (66 to 77 pounds) for wethers. In the interior provinces, cattle stabled during the winter, or pastured on alfalfa, obtain a much greater weight.

Estimated according to the average value of each class of animals, the total value for each class and for the entire number is stated as follows:

Class.	Value.	
	Pesos nacionales.	*Dollars.*
Cattle	289, 252, 606	173, 551, 563.60
Sheep	147, 233, 702	88, 340, 221.20
Horses	46, 283, 094	27, 769, 856.40
Asses and mules	4, 569, 866	2, 741, 919.60
Swine	3, 703, 454	2, 222, 072.40
Goats	2, 409, 183	1, 445, 509.80
Ostriches	1, 111, 143	666, 685.80
Llamas	238, 322	142, 993.20
Total	494, 801, 370	296, 880, 822.00

The number of poultry is reported as follows:

Barnyard fowl	4, 249, 754
Pea-fowl	556, 776
Ducks	318, 648
Geese	184, 699
Pigeons	954, 487

The provinces of Buenos Ayres and Santa Fé are richest in poultry.

The following table shows the quantities of the principal animal products exported in the years 1878 and 1888, respectively:

	1878.		1888.	
	Kilograms.	*Pounds.*	*Kilograms.*	*Pounds.*
Wool	81, 894, 174	180, 543, 896	131, 743, 339	290, 441, 365
Sheep skins	27, 848, 592	61, 395, 006	28, 054, 616	61, 849, 206
Goat skins	609, 808	1, 344, 383	770, 366	1, 698, 349
Horse hair	1, 910, 885	4, 212, 737	2, 019, 212	4, 451, 555
Tallow	21, 097, 022	46, 510, 495	14, 802, 873	32, 634, 414
Jerked beef	33, 600, 293	74, 075, 206	26, 449, 055	58, 309, 587
Hides, dry and salt:		*Number.*		*Number.*
Of cattle		2, 238, 802		3, 366, 639
Of horses		201, 959		256, 505

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EUROPEAN CROP REPORT FOR AUGUST.

SUMMARY.

Results and prospects better than in July. Damage from rain not as great as supposed.

GREAT BRITAIN.

The weather is still unsettled and the harvest two weeks late. The reports from the best wheat districts are better than under the circumstances would be expected, the health of the plant and the strength of the straw having seemed to have been able to withstand the adverse action of the weather.

FRANCE.

The general situation in France is that the crops are turning out much better than was expected, although the season is about ten days late. In the South the thrashings have proved satisfactory, and at the present writing the complaints are not serious except in some parts of the North. A full average is not expected, but a much more hopeful view of the condition of affairs has been taken within the last week. Legislation, shortness of reserves, and uncertainty of prospects have made France a large importer of wheat during the last six weeks, and the effect has been to generally strengthen the tone of the European markets.

The official journal promulgates, under date of July 8, the new law relative to the duties on maize, rice, etc., as adopted by the Senate and the Chamber of Deputies. From the date of the promulgation of this law the duties are fixed as follows:

Articles.	On produce of European origin, or imported from a country not in Europe, per 100 kilograms.	On produce the origin of non-European countries, imported from entrepôts in Europe, per 100 kilograms.
	Francs.	*Francs.*
Maize in shape of grain	3.	6.60
Maize in shape of flour	5.	8.60
Maize in the husk	3.	6.60
Maize, broken grain (brisuris)	6.	9.60
Rice in shape of grain or flour	8.	11.60
Dari and millet-seed in shape of grain	3.	6.
Dari and millet-seed in shape of flour	4.50	8.10

Maize, rye, and hard wheat employed for the manufacture of starch are free of duty.

GERMANY.

Condensing the numerous reports from Germany it may be said that the early part of the month, owing to heavy rains, had a most depress-

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ing effect. Later a favorable change in the weather restored confidence in the vitality of the cereals, and later still the renewal of heavy rain storms has somewhat jeopardized the situation. It is apparent, however, that rye is better than wheat, and in the important Saale district fears are expressed as to the quality of the barley. At the present the condition is slightly under the average.

AUSTRIA-HUNGARY.

The last official report of the Hungarian Minister of Agriculture indicates, as all non-official news does, that the yield of wheat will be excellent. Less than 2 per cent. is under the average and 57 per cent. above the average, while last year at the corresponding period 47 per cent. was below, and only 4 per cent. above the average. The effects of the rust have been greatly exaggerated. Rye is above the medium, barley is satisfactory in quantity and quality, while oats are expected to be a poor crop. In anticipation of the results it is significant that the Hungarian State railroads, and the Danube Steam Company have largely increased their facilities for transport and export.

RUSSIA.

The official report as to the June prospects, which put forth a doubtful estimate, has held good during July. The statements from the different provinces vary greatly, and from week to week are conflicting, but from the vast mass of evidence collected it appears that the winter wheat is much better than the spring, and that the total yield of the Empire will be a medium one—better than last year but inferior to the great totals of 1887 and 1888. In the south, where there had been early in the month too much rain, a dry season seems to have set in, greatly facilitating harvesting. Some complaints are heard of the scorching of grain. An activity has been imparted to the market by the confirmation of the shortage of the crops in India.

ITALY.

The latest official reports mark great improvement, especially with regard to maize, while the crops, gathered and ungathered, are well spoken of.

SPAIN.

The later Spanish advices generally indicate that the harvest is an average one.

ALGERIA.

The harvest has been most abundant.

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SERVIA.

From Vienna it is reported that the Servian wheat crop, which has been gathered, is the best in quantity and quality known for many years.

E. J. M.

INDIAN WHEAT CROP OF 1890.

The final report of the Indian Government upon the wheat crop of 1889–90, just issued, shows that the product of the present year is the smallest recorded since 1884, when the present system of annual estimates by the Government was inaugurated. Two small crops have now been harvested in succession, that of 1889 being the smallest on record up to that time. Several years since, when the specter of Indian wheat competition was frightening our grain-growers, the Statistician took occasion to say that more serious competition from that country was not to be apprehended, and that it was probable that the acreage and product was practically stationary.

The increase in wheat exports was explained by increased facilities for transportation and by a draining of stocks that were heretofore stored in years of plenty against famine years. The returns of recent years confirm the correctness of this position. Instead of rapidly enlarging area and increasing product which many expected, there has been but slight fluctuation and the acreage of the present year was actually smaller than that reported by the Government for 1884 and less than the estimated acreage of 1879. This decline is not the result of a sudden falling off in area during a single season as a result of unfavorable meteorological conditions, but has been steady and continuous since 1885 with the exception of a single year. It can be explained only upon the supposition that even Indian ryots are wearying of feeding the workers of foreign countries with wheat at present prices. Climatic conditions and unfavorable seasons have not caused the decline, as during the period there have been favorable years when the yield approached a "bumper" crop.

The record of acreage is a better indication of the status of wheat growing than that of production, as it represents better the intention of the cultivator. Production depends more upon the climatic conditions of the season, the yield per acre varying largely from year to year. The records of production, however, show the same marked decline during the period under consideration, though with more annual fluctuations as the seasons were good or bad. The official estimates make the crop of 1885 the largest recorded, and that of the present year the smallest, there being a range of nearly 64,000,000 bushels between these extremes, a figure nearly 60 per cent. greater than the largest exportation ever known. The only other measure of Indian competition is her exports, and here the indications point quite as clearly to decreased importance.

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Prior to 1877 Indian grain was not prominent in the world's markets, the exports of no year having reached 5,000,000, but in that year the shipments sprang to 10,428,327 bushels on account of the sudden demand for food supplies, resulting from the partial crop failures of Western Europe. The English Government showed great energy in developing transportation lines and stimulating wheat cultivation and export, and by 1882, when the shipments had increased to 37,148,543 bushels, India was the bugbear of the American farmer. In 1887 the tide of exports reached high-water mark, the shipments of that year amounting to 41,588,250 bushels. The export of 1889 was 25,769,751 bushels from a small crop, which, however, followed the largest but one on record.

The present crop is but slightly smaller than that of 1887, when the exports exceeded 25,000,000 bushels, but in that case a small crop had followed two of more than average production and one the largest known. There were stocks then available which in all probability do not now exist. The present small crop following that of 1889 makes it reasonably certain that during the coming year Indian wheat will be found in the world's markets in much smaller quantities than for several years. This scarcity is already indicaed by the decreased shipments. The shipments during April of this year from Bengal, Bombay, and Sindh only aggregate 51,400 tons, against 57,200 last year, and 73,200 in 1888.

The cause of the diminished outturn of 1890 was the failure of the usual winter rain over large districts of the wheat-growing provinces. The official report thus characterizes the season:

CHARACTER OF THE SEASON.

Throughout the wheat-growing area the rain-fall seems to have been both sufficient and timely up to August or September, after which there was little or no rain except in March or April, when it was too late to benefit the crops. When the sowings commenced the soil was unusually dry, and was insufficiently moist when the crop was ripening. The sole exceptions to the above conditions were the Bombay Karnatak, which had heavy winter rains, and Sindh, where the inundation of the Indus was extremely favorable.

In the districts where irrigation is practiced the crop was excellent both in quantity and quality. In illustration the case of Sindh is cited, the crop of that province being 56 per cent. greater than last year, while in the Punjab on irrigated land there was an increase of 6 per cent. in area, but a falling off of 29 per cent. in the unirrigated district.

The following statement is prepared showing the estimated area and product for 1888–'89 and 1889–'90 by provinces, the first group comprising those provinces in which the statistics are based upon an annual survey, are in the second those provinces are native states in which the statistics are based upon rough estimates:

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Provinces and native states.	Acreage.		Product.	
	1888–'89.	1889–'90.	1888–'89.	1889–'90.
By annual survey:			*Tons.*	*Tons.*
Punjab	6,919,100	6,222,900	2,054,100	1,603,200
Northwestern Provinces and Oudh	4,771,200	4,490,600	1,440,000	1,458,000
Central Provinces	3,866,300	4,085,900	705,000	832,600
Bombay	2,078,300	1,878,100	323,000	420,000
Sindh	283,700	444,900	103,200	162,000
Berar	942,000	830,000	116,900	122,000
Total	18,860,600	17,952,400	4,742,200	4,597,800
By rough estimate:				
Madras	27,000	27,000	6,800	6,800
Native states in Bombay and Sindh	633,900	551,000	273,700	249,700
Bengal	1,041,300	1,071,100	350,000	401,500
Rajputana	1,567,000	1,600,200	381,600	440,200
Ajmere	12,000	12,000	3,000	3,000
Central India	2,634,000	2,634,000	513,000	513,000
Hyderabad	1,111,000	1,111,000	87,000	87,000
Mysore	4,300	3,800	400	400
Kashmir	20,600	20,600	4,500	4,500
Total	7,051,100	7,030,700	1,620,000	1,706,100
Grand total	25,911,700	24,983,100	6,362,200	6,303,900

It is unfortunate that the agricultural statistics of India are not more complete, but the government labors under difficulties in collection that are not appreciated in other countries. The figures of production of 1888–'89 in the above statement vary considerably from those published in the final report last year. This revised estimate makes the crop of 1888–'89 6,362,200 tons, or 237,522,133 bushels, instead of 243,076,549 bushels, as given last year. A large part of the discrepancy appears in the figures for Kashmir, the present report making last year's crop 4,500 tons, while last year it was stated at 133,000 tons. The crop of the present year is made to aggregate 6,303,900 tons, or 235,345,600 bushels, of 60 pounds each, or 2,000,000 bushels smaller than last year. In the provinces, where an annual survey is made, there was a larger outturn in every province except the Punjab, but there the deficiency was so large as to reduce the aggregate of the whole.

In the states where only rough approximations of the crop are attempted a small increase appears, but the fact that in six out of the nine provinces the figures of last year are repeated for this indicates that the estimates are not very much to be relied upon. It appears that the deficiency in the crop, as compared with last year, is confined to the Punjab.

For purposes of comparison the following statement of the aggregate crop and the exportation of the fiscal year following—approximately the crop and the proportion of it shipped—is given:

Year.	Crop.	Exportation.	Year.	Crop.	Exportation.
	Bushels.	*Bushels.*		*Bushels.*	*Bushels.*
1884	251,690,880	29,588,311	1888	264,411,632	32,872,151
1885	299,155,584	39,328,658	1889	237,522,133	25,769,751
1886	258,317,632	41,588,250	1890	235,345,600	
1887	238,585,947	25,271,232			

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Relative to the decline in wheat area, already referred to, the official report has this to say:

It has been shown in previous memoranda on the wheat crop that although the total area under the crop has substantially increased within the last decade, its expansion has been concurrent with the general enlargement of the cropped area, and has not taken place at the expense of other crops. There is, however, reason to believe that during the current year in Berar and the central provinces wheat was to some slight extent replaced by cotton, and that in the Bombay Karnatak the reverse process may have taken place. In Sindh it is probable that wheat has taken the place of other crops to a considerable extent. On the whole, however, the poor harvests of the last three years have caused a sensible decline in the wheat area.

The decline is admitted, but it is charged to three unfavorable seasons. The records, however, show that the decline has been practically continuous and steady each year since 1885, and that all seasons during that period have not been unfavorable. In view of the facts presented by the official records the question might be asked: "Is wheat-growing not declining in India?"

TRANSPORTATION RATES.

FREIGHT RATES—RAILROAD COMPANIES.

Returns for August 1 from the several trunk-line companies, Chicago to New York, and points taking New York rates, show a decrease in the rates of freight upon live-stock, dressed meats, and packing-house products as compared with those reported July 1. Upon dressed meats and live cattle there has been a gradual decrease since June. To show these changes clearly, the following table is presented:

TRUNK-LINE RATES.

[In cents per 100 pounds.]

Articles.	Chicago to New York.		
	June 1.	July 1.	Aug. 1.
Beef, hogs, and sheep, dressed, refrigerator cars, C. L	45	33	30
Bacon and hams, packed, C. L	25	25	23
Beef, in barrels or tierces, C. L	25	25	23
Hides, green, in bundles, C. L	25	25	23
Lard, C. L	25	23	23
Pork, pickled, in barrels, C. L	25	23	23
Cattle, C. L	26	19½	18
Hogs, C. L	25	25	23

The following transportation companies report no important changes in their rates since last published: Pennsylvania Railroad Company (west bound); Delaware, Lackawanna and Western Railroad; New York, Lake Erie and Western Railroad; Mobile and Ohio Railroad Company; Northern Pacific Railroad; Illinois Central Railroad (north bound); Michigan Central Railroad; Louisville and Nashville Railroad; Newport News and Mississippi Valley Transportation Company; Norwich and New York Transportation Company; Portland Steam Packet Company; Old Dominion Steamship Company; Winsor Line; Yazoo and Tallahatchie Transportation Company.

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WABASH RAILROAD COMPANY.

[Rates in effect August 1, 1890.]

Articles.	To Kansas City, Atchison, Leavenworth, or St. Joseph from—				From Kansas City, Atchison, Leavenworth, or St. Joseph to—			
	St. Paul, Minneapolis.	Chicago, Milwaukee.	Peoria, Pekin.	East St. Louis, St. Louis.	St. Paul, Minneapolis.	Chicago, Milwaukee.	Peoria, Pekin.	East St. Louis, St. Louis.
Agricultural implements:								
Except hand, O. R., C. L., ...per 100 pounds.	$0.30	$0.28	$0.24½	$0.20½	$0.32	$0.30	$0.26½	$.022½
N. O. S., K. D. flat, in bundles, L. C. L., per 100 pounds	.75	.70	.60	.50	.80	.75	.65	.55
Apples, in boxes or barrels, O. R., prepaid or guarantied:								
C. L.....per 100 pounds..	.22	.21	.18½	.16	.26	.25	.22½	.20
L. C. L.....do....	.45	.42	.37	.32	.43	.40	.35	.30
Bacon, hams, and shoulders, packed:								
C. L.....do....	.22½	.12	.12	.12	.22½	.12	.12	.12
L. C. L.....do...	.30	.28	.25½	.23	.32	.30	.27½	.25
Beef, pickled:								
C. L.....do....	.22½	.12	.12	.12	.22½	.12	.12	.12
L. C. L.....do....	.30	.28	.25½	.23	.32	.30	.27½	.25
Butter, in wood or tin:								
O. R., C. L.....do....	.45	.42	.37	.32	.43	.40	.35	.30
L. C. L.....do....	.62	.58	.48	.38	.64	.60	.50	.40
Cheese, in boxes, tubs, or casks:								
C. L.....do....	.45	.42	.37	.32	.43	.40	.35	.30
L. C. L.....do....	.62	.58	.48	.38	.64	.60	.50	.40
Cotton-seed meal, C. L......do....	.19	.18	.15½	.13	.21	.20	.17½	.15
Cotton-seed oil, O. R., C. L......do....	.22	.21	.18½	.16	.26	.25	.22½	.20
Fertilizers, except guano: C. L......do....	.....	.....	.....	.....	.22½	.12	.12	.12
Flour:								
For export, forwarded on through bills of lading, C. L.....per 100 pounds..	.....	.....	.....	.....	.22½	.20	.17½	.15
N. O. S. in barrels, C. L.....do....	.25	.22½	.20	.17½	.25	.22½	.20	.17½
Fresh meat, C. L......do....	.25	.18½	.16	.13½	.25	.18½	.16	.13½
Fruit:								
Dried or desiccated, in cans, boxes, barrels, or sacks, released, C. L.....per 100 lbs..	.30	.28	.25½	.23	.32	.30	.27½	.25
Green, N. O. S., O. R., prepaid or guarantied, C. L.....per 100 lbs..	.45	.42	.37	.32	.43	.40	.35	.30
Hides and sheep pelts:								
Green, C. L.....do....	.22½	.12	.12	.12	.22½	.12	.12	.12
Dry, C. L., (minimum weight 10,000 pounds) per 100 lbs..	.62	.58	.48	.38	.64	.60	.50	.40
Hides: Dry, in bundles, L. C. L......do....	.75	.70	.60	.50	.80	.75	.65	.55
Hops, L. C. L......do...	.62	.58	.48	.38	.64	.60	.50	.40
Lard:								
In crocks, buckets, boxes, barrels, or casks, C. L.....per 100 pounds..	.22½	.12	.12	.12	.22½	.12	.12	.12
In barrels or tierces, L. C. L.....do....	.30	.28	.25½	.23	.32	.30	.27½	.25
Lumber:								
Soft, C. L.....do....	.12	.10	.10	.07	.15	.13	.13	.07½
Hard, C. L.....do ...	.18	.16	.16	.11	.18	.16	.16	.11
Pork, packed:								
C. L.....do....	.22½	.12	.12	.12	.22½	.12	.12	.12
L. C. L.....do....	.30	.28	.25½	.23	.32	.30	.27½	.25
Potatoes, N. O. S. in sacks or barrels, O. R:								
C. L.....do...	.19	.18	.15½	.13	.21	.20	.17½	.15
L. C. L.....do....	.30	.28	.25½	.23	.32	.30	.27½	.25
Salt:								
C. L.....do....	.....	.13	.....	.09½	.16	.15	.12½	10
In sacks, boxes, or barrels, L. C. L.....do..	.30	.28	.25½	.23	.32	.30	.27½	.25
Tobacco, unmanufactured:								
In hogsheads, barrels or boxes, L. C. L..do..	.30	.28	.25½	.23	.32	.30	.27½	.25
In bales, L. C. L.....do....	.62	.58	.48	.38	.64	.60	.50	.40
Wheat and flax-seed, C. L.....do....	.25	.22½	.20	.17½	.25	.22½	.20	.17½
Corn, rye, oats, and barley, C. L......do ..	.22½	.20	.17½	.15	.22½	.20	.17½	.15
Wool:								
In sacks, L. C. L.....do....	.62	.58	.48	.38	.64	.60	.50	.40
Compressed, in bales, L. C. L.....do....	.45	.42	.37	.32	.43	.40	.35	.30
Cattle and calves, C. L......do....	.27	.22	.17½	.13½	.....	.12½	.12½	.07½
Hogs, C. L.....do....	.25	.22	.21½	.21½	.25	.22	.21½	.21½
Sheep, C. L.....do ..	.....	.22	.18½	.14½		.22	.18½	.14½
Poultry, live, in coops, L. C. L.....do....	.75	.70	.60	.50	.80	.75	.65	.55
Horses and mules, in standard cars, C. L..per car..	70.00	60.00	50.00	40.00	70.00	60.00	50.00	40.00

* When forwarded in cars owned by the company. C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified. K. D.—Knocked down. O. R.—Owner's risk. P. P.—Prepaid.

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CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY.

[Rates in effect August 1, 1890, in cents per 100 pounds.]

Articles.	To St. Paul, Minneapolis, or Minnesota transfer and—			From St. Paul, Minneapolis, or Minnesota transfer and—		
	Chicago, Milwaukee, Joliet, Peoria.	Alton, East St. Louis, St. Louis.	Burlington, Muscatine, Davenport, Rock Island.	Chicago, Milwaukee, Joliet, Peoria.	Alton, East St. Louis, St. Louis.	Burlington, Muscatine, Davenport, Rock Island.
Agricultural implements:						
Except hand, C. L	20	21	17	20	21	17
N. O. S., K. D. flat, in bundles, L. C. L	50	52½	50	60	63	60
Apples, in barrels or boxes, O. R., P. P. or guaranteed:						
C. L	15	16	15	20	21	20
L. C. L	30	31½	30	40	42	40
Bacon, hams, and shoulders, packed:						
C. L	.....	.....	.....	12	12½	12
L. C. L	20	21	20	25	26	25
Beans and peas, dried, in barrels or in bulk, C. L	15	16	15	20	21	20
Beef, pickled:						
C. L	15	16	15	12	12½	12
L. C. L	20	21	20	25	26	25
Butter, in wood or tin, O. R.:						
C. L	30	31½	30	40	42	40
L. C. L	40	42	40	50	52½	50
Cheese, in boxes, tubs, or casks:						
C. L	30	31½	30	40	42	40
L. C. L	40	42	40	50	52½	50
Fertilizers, except guano, C. L	10	10½	10	13	12½	13
Flour, N. O. S., in barrels:						
C. L	.....	15	.....	.....	16	13
L. C. L	20	21	20	25	26	25
Fruit:						
Dried or desiccated, released, C. L	20	21	20	25	26	25
Green, N. O. S., O. R., P. P. or guaranted C. L	30	31½	30	40	42	40
Hides, dry:						
C. L. (minimum weight 10,000 pounds)	40	42	40	50	52½	50
In bundles, L. C. L	50	52½	50	60	63	60
Hides and sheep pelts, green, C. L	15	16	15	12	12½	12
Hops, L. C. L	40	42	40	50	52½	50
Lard:						
In crocks, buckets, boxes, barrels, or casks, C. L	15	16	15	12	12½	12
In barrels or tierces, L. C. L	20	21	20	25	26	25
Lumber:						
C. L	14	14	14	14	14	14
Except woods of value, L. C. L	20	21	20	25	26	25
Meats, fresh, C. L. (except dressed hogs)	22	23	.....	22	23	.....
Oil cake and oil-cake meal, C. L	12½	13	12½	16	17	16
Pork, packed:						
C. L	.....	.....	.....	12	12½	12
L. C. L	20	21	20	25	26	25
Potatoes, N. O. S., in sacks or barrels or in bulk, O. R., C. L	12½	13	12½	17	18	17
Salt:						
C. L	12½	13	12½	12½	13	12½
In sacks, boxes, or barrels, L. C. L	20	21	20	25	26	25
Tobacco, unmanufactured, in hogsheads, barrels or boxes, L. C. L.	20	21	20	25	26	25
Wheat, C. L	.....	15	.....	.....	16	13
Flax, millet, and hemp seed, C. L	.....	17	.....	16	17	16
Corn, rye, oats, and barley, C. L	.....	15	.....	12½	16	13
Wool:						
In sacks, L. C. L	40	42	40	50	52½	50
Compressed, in bales, L. C. L	30	31½	30	40	42	40
Poultry, live, L. C. L	50	52½	50	60	63	60
Horses and mules, in standard cars, C. L	27½	$28\frac{35}{100}$	27½	27½	$28\frac{35}{100}$	27½
Cattle, C. L	25	26½	25	25	26½	25
Hogs, C. L	27	$28\frac{35}{100}$	27	27	$28\frac{35}{100}$	27
Sheep, C. L	27	$28\frac{35}{100}$	27	27	$28\frac{35}{100}$	27

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified. P. P.—Prepaid. O. R.—Owner's risk. K. D.—Knocked down.

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CHICAGO AND ALTON RAILROAD.

[Rates in effect August 1, 1890, in cents per 100 pounds.]

Articles.	To Chicago from—			From Chicago to—			To East St. Louis from—			From East St. Louis to—		
	Bloomington.	East St. Louis.	Kansas City.	Bloomington.	East St. Louis.	Kansas City.	Louisiana.	Cedar City.	Kansas City.	Louisiana.	Cedar City.	Kansas City.
Agricultural implements (except hand) C. L	13.7	15	30	13.7	15	28	11	18½	22½	11	18½	20
Apples: C. L	12.6	14	25	12.6	14	21	9½	17	20	9½	16	16
L. C. L	20	20	40	20	20	42	17	27	30	17	27	32
Bacon: C. L	15	15	12	15	15	12	9½	12	12	9½	12	12
In barrels, L. C. L	20	20	30	20	20	28	14	22	25	14	22	23
Beef:												
Pickled, C. L	15	15	12	15	15	12	9½	12	12	9½	12	12
Salted, in barrels, L. C. L	20	20	30	20	20	28	14	22	25	14	22	23
Dressed, C. L	20	20	18½	20	20	18½	13½	13½	13½	13½	13½	13½
Butter, in wood, L. C. L	26.6	29	60	26.6	29	58	22	40	40	22	35	38
Cheese: C. L	20	20	40	20	20	42	17	27	30	17	27	32
L. C. L	33.8	38	60	33.8	38	58	22	40	40	22	35	38
Cotton, pressed in bales:												
C. L	20	20	30	20	20	28	14	22	25	14	22	23
L. C. L	26.6	29	75	26.6	29	70	30	50	55	30	45	50
Fertilizers: C. L	7.1	9	16	7.1	9	15	7	9	11	7	9	10
L. C. L	20	20	30	20	20	28	14	22	25	14	22	23
Flour: C. L	9.7	10	18½	9.7	10	22½	7½	13	17½	7½	13	17½
In barrels, L. C. L	20	20	30	20	20	28	14	22	25	14	22	23
Grain, other than wheat, C. L	8.9	12	25	8.9	12	20	7	10	15	7	10	15
Hams: C. L	15	15	12	15	15	12	9½	12	12	9½	12	12
In barrels, L. C. L	20	20	30	20	20	28	14	22	25	14	22	23
Hogs, dressed, C. L	20	20	18½	20	20	18½	13½	13½	13½	13½	13½	13½
Lard in barrels or tierces:												
C. L	15	15	12	15	15	12	12	12	12	12	12	12
L. C. L	20	20	30	20	20	28	14	22	25	14	22	23
Lumber: C. L	9	10	13	9	10	10	7	9½	11½	7	7	7
L. C. L	20	20	30	20	20	28	14	22	25	14	22	23
Pork, salted:												
C. L	15	15	12	15	15	12	12	12	12	12	12	12
In barrels, L. C. L	20	20	20	20	20	28	14	22	25	14	22	23
Potatoes, in barrels:												
C. L	9.7	13	20	9.7	13	18	9	14	15	9	13	15
L. C. L	20	20	30	20	20	28	14	22	25	14	22	23
Salt, C. L	20	20	13	20	20	13	6.2	9¾	9¾	6.2	9¾	9¾
Sheep, dressed, C. L	20	20	18½	20	20	18½	13½	13½	13½	13½	13½	13½
Tobacco, unmanufactured, in hhds	20	20	30	20	20	28	14	22	25	14	22	23
Wheat, C. L	9.7	13	22½	9.7	13	22½	7½	13	17½	7½	13	17½
Wool, C. L. (minimum weight 20,000 pounds)	13.7	15	40	13.7	15	42	17	27	30	17	27	32
Cattle: C. L. (minimum weight 20,000 lbs.)	11.8	14	12½	11.8	14	12½	7½	7½	7½	7½	7½	7½
Estimated weight, L. C. L	43.2	47	75	43.2	47	70	30	50	55	30	45	50
Horses:												
C. L. (minimum weight 20,000 lbs.)	12.98	15.4	13.75	12.98	15.4	13.75	8.25	8.25	8.25	8.25	8.25	8.25
Estimated weight, L. C. L	43.2	47	75	43.2	47	70	30	50	55	30	45	50
Sheep, S. D.:												
C. L. (minimum weight 12,000 lbs.)	16.7	20	22	16.7	20	22	12	13	14½	12	13	14½
Sheep, D. D.:												
C. L. (minimum weight 20,000 lbs.)	16.7	20	22	16.7	20	22	12	13	14½	12	13	14½
Hogs, S. D.:												
C. L. (minimum weight 15,000 lbs.)	15.9	19	22	15.9	19	22	11	12	13	11	12	13
Hogs, D. D.:												
C. L. (minimum weight 22,000 lbs.)	15.9	19	22	15.9	19	22	11	12	13	11	12	13
Hogs:												
Estimated weight, L. C. L	43.2	47	75	43.2	47	70	30	50	55	30	45	50

C. L.—Car-load. L. C. L.—Less than car-load. S. D.—Single deck. D. D.—Double deck.

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CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY.

[Rates in effect August 1, 1890, in cents per 100 pounds.]

Articles.	From Chicago, Milwaukee, or Racine to—									
	Dubuque.	McGregor and Prairie du Chien.	Winona.	St. Paul and Minneapolis.	Red Wing.	Chamberlain.	Mitchell.	Yankton.	Sioux City.	Omaha.
Agricultural implements:										
C. L	15	18	18	20	20	50	40	32½	28	28
Box cars, L.C.L	45	45	45	50	50	120	92	80	70	70
Apples:										
140 barrels or more	14	14	14	15	15	40	30	27	21	21
In barrels, L. C. L	27	27	27	30	30	70	56	47	42	42
Bacon, in barrels, boxes, or casks:										
C. L	14	14	14	15	15	40	30	27	21	21
L. C. L	18	18	18	20	20	50	40	35	28	28
Beans:										
In sacks, C. L	14	14	14	15	15	40	30	27	21	21
Dried, in sacks, L. C. L	27	27	27	30	30	70	56	47	42	42
Dried, in barrels, L. C. L	18	18	18	20	20	50	40	35	28	28
Beef, pickled:										
C. L	14	14	14	15	15	40	30	27	21	21
L. C. L	18	18	18	20	20	50	40	35	28	28
Butter, in wood or tin:										
O. R., C. L	27	27	27	30	30	70	56	47	42	42
O. R., L. C. L	35	35	35	40	40	90	73	65	58	58
Cheese, in boxes, tubs, or casks:										
C. L	27	27	27	30	30	70	56	47	42	42
L. C. L	35	35	35	40	40	90	73	65	58	58
Cotton, pressed, in bales:										
C. L	45	45	45	50	50	120	92	80	70	70
L. C. L	45	45	45	50	50	120	92	80	70	70
Fertilizers, N. O. S., in packages:										
C. L	7½	9	9	10	10	22	19	17	15	15
L. C. L	18	18	18	20	20	50	40	35	28	28
Flour, N. O. S., in barrels:										
C. L	10	12½	12½	12½	12½	32	28	28	25	25
L. C. L	18	18	18	20	20	50	40	35	28	28
Grain, other than wheat:										
C. L	10	12½	12½	12½	12½	28	25	24	22	20
L. C. L	18	18	18	20	20	50	40	35	28	28
Hams:										
C. L	14	14	14	15	15	40	30	27	21	21
In boxes, barrels, or crates, L. C. L	18	18	18	20	20	50	40	35	28	28
Hogs, dressed:										
O. R., C. L	18	18	18	20	20	40	40	35	28	28
O. R., L. C. L	35	35	35	40	40	90	73	65	58	58
Lard:										
In barrels or tierces, C. L	14	14	14	15	15	40	30	27	21	21
L. C. L	18	18	18	20	20	50	40	35	28	28
Lumber:										
Hard, C. L	10	10	10	14	14	27½	23	20	20	16
Soft, C. L	10	10	10	14	14	27½	23	20	17	10
Pork, packed:										
C. L	14	14	14	15	15	40	30	27	21	21
L. C. L	18	18	18	20	20	50	40	35	28	28
Potatoes, N. O. S., in sacks or barrels:										
O. R., C. L	11	11	11	12½	12½	34	27	21	18	18
O. R., L. C. L	18	18	18	20	20	50	40	35	28	28
Salt:										
C. L	10	10	10	12½	12½	27	21	20	13	13
In sacks, boxes or barrels, L. C. L	18	18	18	20	20	50	40	35	28	28
Tobacco, unmanufactured, in hogsheads, barrels, or boxes, C. L	18	18	18	20	20	50	40	35	28	28
Wheat, C. L	10	10	12½	12½	12½	32	28	28	25	25
Wool, in compressed bales	27	27	27	30	30	70	56	47	42	42
In sacks	35	35	35	40	40	90	73	65	58	58
Cattle, C. L	16	16	20	25	25	37½	34	32	31	25
Hogs, C. L	20	22	25	27	27½	45	40	37½	35	25
Sheep, C. L	20	22	25	27	27	45	40	37½	35	25
Horses, C. L	17.6/10	17.6/10	22	27½	27	41½	37.4/10	35.3/10	34.1/10	27½

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified.

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THE TRANS-MISSOURI FREIGHT ASSOCIATION.

[Rates in effect August 1, 1890.]

Articles.	To Denver, Colorado Springs, Pueblo, Trinidad, Colo., and points taking Denver rates, from—				
	Chicago, Ill.; Milwaukee, Wis.; Memphis, Tenn.	Peoria, Ill.	St. Louis, Mo.; East St. Louis and Cairo, Ill.; Columbus, Ky.	St. Paul and Minneapolis, Minn.	Council Bluffs and Sioux City, Iowa; Omaha, Nebr.; Atchison and Leavenworth, Kans.; Kansas City and St. Joseph, Mo.
Agricultural implements (except hand), C. L ...per 100 lbs..	$1.13	$1.09½	$1.05½	$1.07	$0.85
Agricultural implements, N. O. S., K. D. flat, in bundles, L. C. L .....per 100 pounds..	2.30	2.20	2.10	2.15	1.60
Apples in barrels or boxes, O. R., P. P. or g't'd, C. L ....do....	.96	.93½	.91	.93	.75
Bacons, hams and shoulders, packed, C. L .....do....	.93	.90½	.88	.93	.75
Beans and peas, dried in bbls. or in bulk, C. L.....do....	.96	.93½	.91	.93	.75
Beef, pickled:					
C. L.....do....	.93	.90½	88	.93	.75
L. C. L.....do....	1.18	1.15½	1.13	1.15	.90
Butter, in wood or tin, O. R.:					
C. L.....do....	1.52	1.47	1.42	1.42	1.10
L. C. L.....do....	1.88	1.78	1.68	1.75	1.30
Cheese, in boxes, tubs, or casks:					
C. L.....do	1.52	1.47	1.42	1.42	1.10
L. C. L.....do	1.88	1.78	1.68	1.75	1.30
Corn, oats, rye, barley or mill stuffs, C. L.....do	.50	.47½	.45	.45	.30
Cotton-seed, cake and meal, C. L.....do	.50	.47½	.45	.50	.35
Cotton-seed oil, C. L .....do	.71	.68½	.66	.68	.50
Fertilizers, N. O. S., in packages, C. L.....do	.55	.52½	.50	.52	.40
Flour, C. L.....do	.55	.52½	.50	.55	.35
Fruit:					
Dried or dessicated, in cans, boxes, barrels, or sacks, released, C. L.....per 100 pounds..	1.18	1.15½	1.13	1.15	.90
Green, N. O. S., O. R., P. P. or g't'd, C. L.....do....	1.52	1.47	1.42	1.43	1.10
Tropical, straight or mixed, C. L.....do....	.90	.85½	.81½	.90	.56½
Grapes, C. L .....do....	1.14	1.09	1.04	1.04	.72
Hides and sheep pelts:					
Dry, C. L. (minimum weight 10,000 pounds).....do....	1.88	1.78	1.68	1.75	1.30
Green, C. L .....do....	.93	.90½	.88	.93	.75
Lard:					
C. L.....do....	.93	.90½	.88	.93	.75
In barrels or tierces, L. C. L.....do....	1.18	1.15½	1.13	1.15	.90
Meat, fresh, O. R., P. P.. or g't'd, C. L.....do....	.98½	.96	.93½	.98½	.75
Meats, dried or salted, packed or in bulk, C. L.....do....	.93	.90½	.88	.93	.75
Oil-cake and oil-meal, C. L.....do....	.50	.47½	.45	.45	.30
Pork, packed:					
C. L.....do....	.93	.90½	.88	.93	.75
L. C. L .....do ..	1.18	1.15½	1.13	1.15	.90
Potatoes, Irish and sweet, C. L .....do....	.68	.65½	.63	.65	.50
Salt:					
C. L.....do....	.50	.47½	.46½	.49	.37
In sacks, boxes, or barrels, L. C. L.....do ..	1.18	1.15½	1.13	1.15	.90
Tobacco, unmanufactured, in hogsheads, barrels, or boxes, L. C. L .....per 100 pounds..	1.18	1.15½	1.13	1.15	.90
Wheat and flaxseed, C. L .....do....	.57½	.55	.52½	.55	.35
Wool:					
In sacks, L. C. L.....do	1.88	1.78	1.68	1.75	1.30
Compressed in bales, L. C. L .....do ..	1.52	1.47	1.42	1.42	1.10
Horses and mules, released, C. L.....per standard car.	115.00	106 25	97.50	115.00	75.00
Cattle, released, C. L .....do....	105.00	96.25	87.50	103.00	65.00
Hogs:					
Single deck, released, C. L .....do....	98.00	97.25	97.25	95.00	65.00
Double deck, released. C. L .....do....	171.80	170.85	170.85	168.00	130.00
Sheep:					
Single deck, released, C. L.....do....	61.00	57.50	52.50	59.00	39.00
Double deck or tiered cars, released, C. L..... do ...	105.00	96.25	87.50	103.00	65.00

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified. K. D.—Knocked down. O. R.—Owner's risk. P. P.—Prepaid.

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THE TRANS-MISSOURI FREIGHT ASSOCIATION.

[Rates in effect August 1, 1890.]

Articles.	From Denver, Colorado Springs, Pueblo, Trinidad, Colo., and points taking Denver rates to—				
	Chicago, Ill.; Milwaukee, Wis.; Memphis, Tenn.	Peoria, Ill.	St. Louis, Mo.; East St. Louis, and Cairo, Ill.; Columbus, Ky.	St. Paul and Minneapolis, Minn.	Council Bluffs and Sioux City, Iowa; Omaha, Nebr.; Atchison and Leavenworth, Kans.; Kansas City and St. Joseph, Mo.
Agr'l imp'ts (except hand) C. L ..... per 100 lbs..	$1.15	$1.11½	$1.07½	$1.07	$0.85
Apples, in barrels or boxes, O. R., P. P., or g't'd., C. L .do....	1.00	.97½	.95	.93	.75
Bacon, hams, and shoulders, packed, C. L..... .....do....	.87	.87	.82	.87	.75
Beans and peas, dried, in barrels or in bulk, C. L .....do....	1.00	.97½	.95	.93	.75
Beef, pickled:					
C. L.....do....	.87	.87	.82	.87	.75
L. C. L.....do....	1.20	1.17½	1.15	1.15	.90
Butter, in wood or tin, O. R.:					
C. L.....do....	1.50	1.45	1.40	1.42	1.10
L. C. L.....do....	1.90	1.80	1.70	1.75	1.30
Cheese, in boxes, tubs, or casks:					
C. L.....do....	1.50	1.45	1.40	1.42	1.10
L. C. L .....do	1.90	1.80	1.70	1.75	1.30
Fertilizer, C. L .....do....	.41*	.41	.36	.41	.29
Flour:					
For export, forwarded on through bills of lading, C. L. per 100 lbs.....	.52½	.50	.47½	.52½	....
C. L.....per 100 pounds..	.55	.52½	.50	.52½	.32½
Fruit:					
Dried or desicated, in cans, boxes, bbls., or sacks, released, C. L .....per 100 lbs..	1.20	1.17½	1.15	1.15	.90
Green, n. o. s., O. R., P. P., or g't'd., C. L .....do....	1.50	1.45	1.40	1.42	1.10
Hemp, in bales, L. C. L.....do....	1.70	1.70	.....	1.70	.....
Hides:					
Hides, and sheep pelts, green, C. L.....do....	.88	.87	.82	.87	.75
Dry, pressed, in bales, and sheep pelts, C. L. (minimum weight, 10. 000 lbs.)..... per 100 lbs....	1.47	1.42	1.37	1.47	.97
Dry, in bundles, L. C. L .....do....	2.30	2.20	2.10	2.15	1.60
Honey, in five gallon tin cans, boxed, released, C. L...do....	1.00	1.00	1.00	1.00	1.00
Lard:					
C. L.....do....	.87	.87	.82	.87	.75
In barrels or tierces, L. C. L .....do....	1.20	1.17½	1.15	1.15	.90
Meat, fresh, C. L.....do....	1.28½	1.26	1.23½	....	.....
Meats, dried or salted, packed or in bulk, C. L .....do...	.87	.87	.82	.87	.76
Oranges, lemons and vegetables, mixed, C. L.....do....	1.25	1.25	1.25	1.25	.....
Potatoes, n. o. s.. C. L.....do....	.55	.52½	.50	.50	.35
Pork, packed:					
C. L.....do....	.87	.87	.82	.87	.75
L. C. L .....do....	1.20	1.71½	1.15	1.15	.90
Salt, in sacks, boxes or barrels, L. C. L..... do ...	1.20	1.17½	1.15	1.15	.90
Tobacco, unmanufactured, in hogsheads, barrels, or boxes, L. C. L.....100 pounds..	1.20	1.17½	1.15	1.15	.90
Grain:					
Barley, C. L..... ..do....	.60	.60	.58	.60	.35
Wheat, C. L.....do....	.57½	.55	.52½	.55	.25
Horses and mules, released, C. L .....per standard car..	108.00	99.22	90.50	108.00	75.00
Cattle, released, C. L .....do...	86.00	86.00	68.50	98.00	65.00
Hogs:					
Single deck, released, C. L .....do....	98.00	89.25	80.50	95.00	65.00
Double deck, released, C. L .....do....	171.80	170.85	154.70	168.00	130.00
Sheep:					
Single deck, released, C. L.....do....	58.80	50.05	48.30	59.00	39.00
Double deck or tiered cars, released, C. L.....do....	98.00	89.25	80.50	98.00	65.00

*—Memphis not included. C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. P. P.—Prepaid. N. O. S.—Not otherwise specified.

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MONTHLY STATEMENT OF CANAL AND LAKE RATES FOR JULY, 1890.

Date.	Canal rates, Buffalo to New York.					Lake rates, Chicago to Buffalo.		
	Oats per bushel.	Corn and rye per bushel.	Wheat per bushel.	Lumber per 1,000 feet.		Oats per bushel.	Corn per bushel.	Wheat per bushel.
				To Albany.	To New York.			
	Cents.	*Cents.*	*Cents.*			*Cents.*	*Cents.*	*Cents.*
July 1	2⅜	3½	3⅜	$1.50	$2.00	1¾	2⅛	2⅛
2	2⅜	3½	3⅜	1.50	2.00	1¾	2⅛	2⅛
3	2⅜	3½	3⅜	1.50	2.00	1¾	2⅛	2⅛
4	2⅜	3½	3⅜	1.50	2.00	1¾	2⅛	2⅛
5	2⅜	3½	3⅜	1.50	2.00	1¾	2⅛	2⅛
6	2⅜	3½	3⅜	1.50	2.00	1¾	2⅛	2⅛
7	2⅜	3½	3⅜	1.50	2.00	1¾	2⅛	2⅛
8	2⅜	3½	3⅜	1.50	2.00	1¾	2	2¼
9	2⅜	3½	3⅜	1.50	2.00	1¾	2	2¼
10	2⅜	3½	3¼	1.50	2.00	1¾	2	2¼
11	2⅜	3½	3⅜	1.50	2.00	1¾	2	2¼
12	2⅜	3½	3⅜	1.50	2.00	1¾	2	2¼
13	2⅜	3½	3⅜	1.50	2.00	1¾	2	2¼
14	2⅜	3½	3⅜	1.50	2.00	1¾	2	2¼
15	2⅜	3½	3⅜	1.50	2.00	1¾	2	2¼
16	2⅜	3½	3⅜	1.50	2.00	1¾	2	2¼
17	2⅜	3½	3⅜	1.50	2.00	1¾	2	2¼
18	2⅜	3½	3⅜	1.50	2.00	1¾	2	2¼
19	2⅜	3½	3⅜	1.50	2.00	1¾	2	2¼
20	2⅜	3½	3⅜	1.50	2.00	1¾	2	2¼
21	2⅜	3½	3⅜	1.50	2.00	1¾	2	2¼
22	2⅜	3½	3⅜	1.50	2.00	1¾	2	2¼
23	2⅜	3½	3⅜	1.50	2.00	1⅞	1⅞	2⅛
24	2⅜	3½	3⅜	1.50	2.00	1⅞	1⅞	2⅛
25	2⅜	3½	3⅜	1.50	2.00	1⅞	1⅞	2⅛
26	2⅜	3½	3⅜	1.50	2.00	1⅞	1⅞	2⅛
27	2⅜	3½	3⅜	1.50	2.00	1⅞	1⅞	2⅛
28	2⅜	3½	3⅜	1.50	2.00	1⅞	1⅞	2⅛
29	2⅜	3½	3⅜	1.50	2.00	1⅞	1⅞	2⅛
30	2⅜	3½	3⅜	1.50	2.00	1¾	1⅞	1¾
31	2⅜	3½	3⅜	1.50	2.00	1¾	1⅞	1¾

ST. LOUIS AND MISSISSIPPI VALLEY TRANSPORTATION COMPANY.

[Rates in effect August 1, 1890.]

Articles.	St. Louis to New Orleans.	Articles.	St. Louis to New Orleans.
Apples, green, in barrels.....per bbl..	$0.30	Grain.....per 100 lbs..	$0.15
Apples and peaches, dried:		Hides:	
C. L.....per 100 lbs..	.25	Dry, loose, or in bundles...do....	.60
L. C. L.....do ...	.25	Dry, in bales.....do....	.30
Bacon, packed.....do....	.15	Green .....do....	.30
Beans:		Hops, baled .....do....	.40
In boxes.....do....	.25	Lard, in buckets, tierces, kegs, or	
In barrels or sacks.....do....	.17½	cases ..... per 100 lbs..	.15
Beef and pork ... .per bbl..	.45	Oranges and lemons, released..do....	.60
Beef, smoked:		Potatoes, in barrels.....per bbl..	.30
In barrels..... do....	.45	Salt.....per 100 lbs..	.15
In barrels or boxes..per 100 lbs..	.15	Salt, table .....do....	.60
Butter, in wood ..... do...	.50	Tallow, N. O. S .....do....	15
Cheese..... do....	.35	Tobacco, unmanufactured:	
Corn meal .....per bbl..	.30	In casks.....do....	.20
Cotton, in bales.....per bale..	1.25	In hhds .....do ...	.25
Cotton-seed oil, C. L.....per bbl..	.80	Wool:	
Flour, in barrels.....do....	.30	In bags..... do....	.60
Fruit, dried:		N. O. S., pressed in bales, per	
N. O. S., C. L.....per 100 lbs..	.30	100 lbs.....	.30
N. O. S., L. C. L..... .....do....	.35		

C. L.—Car-load. L. C. L.—Less than car-load. N.O. S.—Not otherwise specified.

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OCEAN STEAM-SHIP COMPANIES.

[Rates in effect August 1, 1890.]

Articles.	White Star Line, New York to Liverpool.	Inman Line, New York to Liverpool.	Guion Line, New York to Liverpool.	Anchor Line, New York to Glasgow.
Wheat.....per bushel..	$0.05½	$0.05	$0.05½	$0.05½
Corn.....do.....	.05½	.05	.05½	.05½
Flour.....per barrel..	.36	.36	.36	.36
Flour (in sacks).....por 2,240 pounds..	2.40	2.40	2.40	2.40
Bacon.....do....	3.00	3.00	3.60	4.80
Lard.....do....	3.00	3.00	3.00	4.80
Cheese.....do....	6.00	4.80	4.80	8.40
Tallow.....do....	2.40	3.00	3.00	3.60
Beef.....per tierce..	.48	.48	.60	.....
Pork.....per barrel..	.36	.36	.48	.96
Oil-cake.....per 2,240 pounds..	2.40	2.40	2.40	2.40
Cotton.....per pound..	.00 3/32	.00 3/16	.00 3/16	.....
Hops.....do....	.00 5/16	.00¼	.00½	.00½
Tobacco.....per hogshead..	3.60	4.80	.....	4.80
Rosin.....per 280 pounds..	.30	.36	.....	.30
Lard (in small packages).....per 2,240 pounds..	7.20	4.80	4.80	6.00
Tobacco (in cases).....per 40 cubic feet..	3.60	3.60	4.80	4.80
Apples.....per barrel..	.72	.48	.72	.....
Hams.....per 2,240 pounds..	3.00	3.00	3.60	4.80
Butter.....do....	7.20	6.00	6.00	8.40
Measurement per ton (40 cubic feet).....	4.80	3.60	3.00	4.20 to 6.00
Primage.....per cent..	5	5	5	5

Articles.	North German Lloyd Steam-ship Company, New York to Bremen.	General Transatlantic Company, New York to Havre.
Wheat.....per 100 pounds..	$0.16	*$0.68
Corn.....do...	.16	*.03
Flour.....per barrel..	.72	1.00
Flour (in sacks).....per 100 pounds..	.20	.25
Bacon.....do....	.24	.....
Lard.....do....	.24	.30
Cheese.....do....	.36	.40
Tallow.....do....	.24	.30
Beef.....per tierce..	1.25	1.25
Pork.....per barrel..	1.00	1.00
Oil-cake.....per 100 pounds..	.20	.25
Cotton.....per pound..	†.00½	.00¾ to .00½
Hops.....do....	†.01	.....
Tobacco.....per hogshead..	6.00	7.00 to 8.00
Rosin.....per 280 pounds..	.70	.....
Lard (in small packages).....per 100 pounds..	.36	.35 to .55
Tobacco (in cases).....per case..	1.50	‡8.00
Apples.....per barrel..	.90	.90
Hams.....per 100 pounds..	.25	.....
Butter.....do....	.60	.40
Measurement per ton (40 cubic feet).....	4.80 to 10.00	7.00 to 10.00
Primage.....per cent..	.....	5

*Per bushel. †And 5 per cent. primage. ‡Per 40 cubic feet.

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DEPARTMENT OF AGRICULTURE.
REPORT OF THE STATISTICIAN.
New Series. Report No. 77.

REPORT

ON

CONDITION OF CROPS

IN

AMERICA AND EUROPE,

AND ON

FREIGHT RATES OF TRANSPORTATION COMPANIES.

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

SEPTEMBER, 1890.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1890.

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SEPTEMBER REPORT.

DEPARTMENT OF AGRICULTURE,
September 11, 1890.

SIR: I have the honor to submit herewith for publication the September report, showing the condition of the cereals, potatoes, cotton, tobacco, sorghum, fruits, and the relative numbers and condition of fattening swine on the 1st of September.

The report of the European agent gives the present status of crops in the several countries of Europe.

The report contains, also, information concerning crops in Canada, returns of the area cultivated in Great Britain, and our exports to South America and other countries, and imports from the same countries.

The statement of changes in freight rates on agricultural products is also presented.

Respectfully,

J. R. DODGE,
Statistician.

Hon. J. M. RUSK,
Secretary.

SEPTEMBER CROP REPORT.

The season has not been favorable to cereals, potatoes, or fruits, while hay, cotton, and sugar have been favored with conditions conducive to medium or large development. Where drainage is defective, cultivation limited, and a minimum of care and labor are applied the meteorological mishaps will be numerous and injurious. It is satisfactory to know that a considerable percentage of the losses now sustained are avoidable, yet it will be long, while lands remain cheap, before the possible remedy shall be applied. The losses are now so serious in the great rain belt that arid land farmers do not fail to claim an advantage in the control of moisture in its application to growing crops.

The rain-fall of the season has been fitful and irregular over much of the cultivated area. A late and cold spring was followed in large areas in the South and central West by drought of several weeks duration,

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in some places of nearly two months, which was broken by heavy storms, often attended by high winds. The Signal Service summarizes the precipitation of the summer up to the first week in September as follows:

The rain-fall for the season continues in excess in the Lake region and New England, the northern portions of the Middle Atlantic States, in the Ohio Valley, southern Missouri, Arkansas, central Mississippi, and eastern Texas. A slight seasonal excess is also reported from the North Pacific coast. The seasonal deficiency in the South Atlantic States is from 6 to 10 inches, and from 13 to 15 inches in the extreme southern portions of Alabama, Mississippi, and Louisiana. The seasonal deficiency is about 7 inches in Kansas, 4 inches in western Nebraska, 6 to 9 inches in eastern Nebraska, Iowa, and northern Missouri. About the same deficiency is reported from Massachusetts, Rhode Island, and Connecticut. In the Lake region the seasonal excess varies from 2 to 6 inches.

Our returns everywhere emphasize the results of irregularities in rain-fall and temperature. The amount of rain is of far less practical importance than its timely distribution and absorption by the soil. The value of moisture in crop development can not be determined by the sum of precipitation nor the maturation of plants by the aggregate of the season's heat. A few days of excessive moisture accompanied or followed by extreme heat when grain is in the milk and fruit is maturing may destroy or seriously injure the crop, causing blights of grain and rotting of fruit.

The effects of drought have been severest in Kansas and Nebraska, northern Missouri, southern Iowa, and the region contiguous to the Ohio River on both sides. It has been quite injurious to cotton and other crops on the Gulf coast and portions of the southern Atlantic coast.

CORN.

The returns for September show that the injury to the corn crop reported last month was intensified by continuance of drought in August, until the rains came to its relief, but too late for full recovery. On the coast from New Jersey to Maryland, and in North Carolina, Tennessee, Kentucky, Arkansas, and Missouri, as also in northern New England and Florida, there is improvement since August 1. In Michigan, Wisconsin, and Indiana, and in Georgia, Alabama, Louisiana, and Texas, condition is unchanged. A decline has occurred in New York, Ohio, Illinois, and in all the northwestern States, and in some others of less importance. The average is 70.1 against 73.3 last month. It is the lowest September average since 1881.

The crop is late in the Eastern States, requiring maturing weather throughout September. It is also late and variable in development in New York and Pennsylvania. The Atlantic coast States return relatively high condition, impaired locally by the effects of midsummer drought and later storms. In Tennessee and Mississippi, Arkansas and Texas, drought more or less severe from the 20th of June to the middle of August reduced condition too low for subsequent recovery,

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as the crop was maturing or ripe before rains came. The Ohio Valley and the Missouri Valley report protracted drought and low condition. While the rains of the last two weeks of August have been beneficial nearly everywhere, they have not always restored the losses of the first half of the month. In the bottom lands, where growth was maintained, the recent rains will make a good crop, while the drier uplands were beyond recovery. The lowest condition is in Kansas, though some of the eastern counties make good returns. The Dakotas and Nebraska are little higher.

The crop is late, and will require as much time to mature on the latitude of 40° as for the earlier varieties grown on the line of 42°.

The following is a statement of monthly condition:

Year.	July.	August.	September.	October.	Yield per acre.
1885	94.0	96.0	95.0	95.0	26.5
1886	95.2	80.7	76.6	80.0	24.0
1887	97.7	80.5	72.3	72.8	20.1
1888	93.0	95.5	94.2	92.0	20.3
1889	90.3	94.8	90.9	91.7	26.9
1890	93.1	73.3	70.1	.....	.....

Local details of condition are voluminous and somewhat monotonous. The correspondents of northern New England refer generally to lateness of development, good growth of stalk, and the necessity of sunshine and high September temperature to mature the ears. Much appears to depend on the weather of the present month, the first third of which has proved quite favorable.

In southern New England late planted corn is not well grown. The heats of June and July were injurious to the crop on sandy or gravelly soils. Since the rains some improvement is shown in light lands. A fair crop is expected.

The late planted is not filled out well in New York. The cool weather of the latter part of August did not advance the crop beyond possible injury by frost. In some light soils, where drought was severest, earing is very defective. Yet the prospect is favorable for a crop not much below an average of good and bad seasons.

New Jersey will have a good crop, and the coast southward in Delaware and Maryland, except that in the Chesapeake Bay region, where it was too far advanced to receive much benefit from rains after the dry weather.

In the interior, among the hills and mountains of Pennsylvania, the crop is in all stages of later development. Some fields of early planting were too much injured by drought for recovery; others have shown manifest improvement and promise well. In some districts the rains were just in season to prevent a failure. Under the most favorable circumstances there will be many small and imperfect ears, and probably an unusual amount of soft and unmerchantable corn.

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Virginia will fare better than many other States. In Chesterfield a claim of the best crop in twenty years is made. "As fine a crop as could well be" in Henry. "The best in ten years," says our Surry correspondent. "Never better" in Montgomery. In some sections the crop has been injured by high winds and storms. That which has been well cultivated is always best. Almost the only damage reported is by floods and storms.

The season has been as favorable as could well be desired in North Carolina, and the rains of August which followed the drought brought up the crop to fairly good condition. There was some injury from heavy storms in August. There is some complaint of smut, which will reduce the value of that affected.

Early planting was injured more than late by the drought in South Carolina, yet the crop will be generally good. There is also some complaint of smut here.

The vicissitudes of the season were somewhat severe in Georgia. Seasons of drought and of storm, of high temperature followed by much moisture, marked changes in alternation, proved a great strain on the remarkable vitality of this distinctively American crop, reducing condition, firing the leaves, and blighting the ears. Yet a considerable part of the area will yield well.

The Florida crop is ready to gather, and will prove a fairly abundant yield.

Corn was injured materially in Alabama by the dry weather of June and July, was improved by later rains except where too much injured for recuperation. There occur apparently contradictory statements of good early corn in one county and poor in another, with similar difference in testimony concerning the late planted; but there is no discrepancy. Differences in soil and cultivation account for results apparently opposite.

In Mississippi the crop was so advanced before the rains came that only the late planting, as a rule, was benefited. There were local differences in rain-fall which modified the local situation.

The crop in Louisiana is variable. Much of the area was planted late. There will not be enough for home demand.

Texas reports much injury from continued dry weather. There were abundant rains in spring over most of the corn area, followed by long continued and serious drought. One correspondent in Cameron reports the first crop a failure, and the second crop now being planted.

Arkansas and Tennessee returns are replete with deterioration from the drought. Late rains have benefited areas that were planted late. In Arkansas the overflowed region was necessarily late in seeding. That which was planted early was injured by wet weather which prevented cultivation. The situation has materially improved in Tennessee since the rain came.

The following volunteer statements of corresponden ts, accompanying

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estimates, are quoted to illustrate the situation in the corn surplus States:

KENTUCKY.—*Wolfe:* Damaged by storms in some portions of the county. We are now having excessive rains and there is danger that frost may injure the crop before it ripens. *Estill:* Late, and the wet weather now prevailing prevents it from maturing. It continues growing. *Calloway:* Suffered greatly from lack of rain until the ast of July; since that time the season has been a fine one. *Gallatin:* Greatly improved by recent rains and with a late season it will make nearly a full crop. *Shelby:* Improved somewhat by the rains of August, but still shows the effect of the unfavorable season. *Laurel:* Condition greatly improved by the August rains. The prospect is for a good crop, especially as regards late planted; should this have time to mature it will make nearly a full average. *Grant:* Greatly improved during the past month and promises to make 90 per cent. of a full crop. *Hardin:* The drought was broken too late to help the corn crop materially. *Jessamine:* Improved during the past month. *Lee:* Wonderfully improved and now indicates a full average on all lands. *Muhlenberg:* Improved by August rains. *Morgan:* Late, but has been benefited by the recent rains. In some localities it was drowned out. *Trimble:* Late planted will be benefited by recent rains. *Union:* Improved by late rains and promises to make nearly a full average. *Bell:* Damaged somewhat by wind storms. *Graves:* Greatly improved by recent rains. Acreage short, about 70 per cent. of an average crop. *Pulaski:* Greatly benefited by frequent showers during the past month. Late planted is in some danger of injury, from frost. *Allen:* Very green. False shoots which will make no ears, are very numerous. *Anderson:* Cut short by drought in June and July. Recent rains have improved the prospect only in particular localities. *Boone:* Cut short by drought in some portions of the county, in others where the season has been more favorable there is a fair crop. *Christian:* A wonderful improvement. *Wayne:* Has never recovered from the effects of the June drought. *Fayette:* Late and early frost would be very destructive. Nights for the past week very cool and frost reported on some lowlands; no damage done, however. *Hancock:* Condition greatly improved by the August rains. *Jefferson:* Has not recovered from the effect of the drought. *Kenton:* Can not make over a half crop; much is late and would be damaged by early frost. *La Rue:* Ruined by the drought of sixty successive days. *Logan:* Improved by late rains; will make 60 per cent. of an average crop. *McLean:* Improved beyond the most sanguine expectations since the August rains began, though it is 20 days late, consequently in danger of frost. *Nicholas:* Materially improved within the past three weeks. *Ballard:* Greatly improved, but is little more than a half crop. *Caldwell:* Somewhat late, but greatly improved by the warm rains of August. *Lewis:* Will be a fair crop if not overtaken by early frosts. *Lincoln:* The present indications are in favor of a full average, but there is much that would be injured by an early frost. *Lyon:* Early planted can not make over a half crop; late planted, about three-fourths. *Bracken:* Advanced 15 per cent. by the rains of August. *Clinton:* Has grown up rapidly, but is not earing in proportion to stalk and fodder; was damaged by storms in one part of the county. *Harlan:* Nearly matured; promises a fine yield. *Owsley:* Can not ripen properly, owing to excessive rains, and is in danger of frost. *Washington:* Has improved and will continue to do so if not caught by frost. *Pike:* Has come out wonderfully, will be a good average, well-filled and of full weight.

OHIO—*Auglaize:* The poorest crop ever grown, not excepting that of the frost year. *Clarke:* Much failed to shoot. The ears are in all stages of development, from new silk to fully ripened ones. The value of the crop will depend in a great measure upon the season, whether frost comes early or is delayed. *Butler:* In consequence of continued drought has fallen back at least 10 points since last report. *Columbiana:* Improved by the frequent rains of the past two weeks; still it is difficult to make an estimate of the real condition. *Franklin:* Comes nearer being a complete failure than at any time in the past forty years. Not enough will be harvested to supply home

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demand. *Mahoning:* Greatly benefited by rains during the latter part of the month. *Hocking:* Improved by late rains. *Holmes:* Late, and will require at least one month of favorable weather to mature. *Highland:* Improved by recent rains. *Jackson:* Below the average. *Lorain:* Late, and suffering somewhat from cold nights. Should the weather be favorable for the next six weeks it will show a higher per cent. when cut. *Pickaway:* The fine rains of recent date will help to fill out a good deal of the crop. Some portions are injured beyond redemption. *Vinton:* Was injured by the drought of July and the earlier part of August at the critical time of shooting. *Union:* Cut short by the drought of July and the earlier part of August. Rains since the 20th of August have brightened the outlook for late planted, which will be fair if it escapes early frosts. *Harrison:* Will make a fair average crop if not injured by frost. *Muskingum:* The shortest crop in many years, the greater part of it being planted too late to withstand the trying changes of the season. *Perry:* Planting was delayed by reason of continuous rains during the spring, many fields being wholly abandoned. *Scioto:* Greatly improved during August. If frost is delayed until late September the average will be higher. *Adams:* In some localities the crop will equal that of last year; in others it is seriously shortened. It is improving in consequence of the recent rains. *Champaign:* Low condition due to drought and the extreme heat of July and August. *Fairfield:* Late planted improved by recent rains, early planted is very poor *Medina:* Is late, but has improved within the past week. *Paulding:* Early planted will make a fair crop, late is nearly a failure. Much was injured by a wind-storm of August 20 and will be very difficult to cut. *Shelby:* Many fields will make less than 5 bushels per acre. Early planted on bottom lands may average 35 bushels per acre. *Van Wert:* Condition improved by a recent fine rain. *Clinton:* Improved by the copious rains of the past three weeks. *Guernsey:* Prospect brighter since the August rains came. *Licking:* Late and small, ripening slowly in consequence of the cold weather. *Logan:* Will not be over 50 per cent. of an average crop. A large percentage of ears are not well filled. On good bottom-lands it is fair. *Mercer:* Improving since the long-continued drought was broken. *Montgomery:* Prospect brightened since the rains of August set in, but a great part of the crop was hurt beyond recovery. *Preble:* Late and in danger of frost. Prospect gloomy. *Allen:* Little more than a half crop, owing to the long dry spell. *Belmont:* Maturing slowly, and if early frosts come there will be much soft corn. *Lake:* Though late, will, with favorable fall weather, make a fair crop. *Putnam:* With two weeks of good weather without frost, will improve from 25 to 30 per cent. *Williams:* Low condition, due to late planting, excessive rains in spring, and severe drought through the summer.

MICHIGAN.—*Ogema:* Somewhat better than last year's crop. *Leelanaw:* An unusually good crop. *Ottawa:* A short crop in consequence of the drought. *Kalamazoo:* The average condition is very difficult to estimate; some fields promise a half crop if not injured by early frosts; others indicate a total failure, no ears maturing. *Cheboygan:* Ripening slowly in consequence of the cold, wet weather of August. *Tuscola:* Maturing slowly, the weather being unusually cool. *Allegan:* Suffered from the dry weather and hot winds of July. *Clinton:* A light stand, owing to damage from cut-worms. *Crawford:* Injured 25 per cent. by recent cold rains and frost. *Ionia:* Maturing very rapidly, and with two weeks longer of good weather without frost the bulk of the crop will be harvested in good average condition. *Jackson:* Improved by recent rains. *Lenawee:* Late planted improving in consequence of abundant rains in the past few days. *Monroe:* Suffered from drought at earing time and the ears are now short; the weather is too cool to enable it to mature rapidly, still it is greatly improved by recent rains. *Genesee:* Suffering from drought. *Mason:* A poor crop in consequence of drought. *Midland:* Doing well; will be out of danger from frost in ten days from date. *Branch:* Very uneven; some fields will be good if frost is delayed until September 20. *Gratiot:* With two weeks of good weather from date will make the best crop ever grown in the country. *Newaygo:* Chances not in

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favor of anything more than a half crop; the very best needs two weeks of fine, warm weather to mature, and the days continue cold with northerly winds, the nights frosty in temperature. *Manistee:* A full average; the season has been favorable and the growth better than in many years. *Isabella:* Prospect damaged by the drought of July, with frost in August. *Kent:* Gaining slowly; if frost is delayed a few weeks will improve. *Van Buren:* Injured by a frost about the 22d of August, especially on lowlands. *Shiawassee:* A fair crop if not damaged by early frosts.

INDIANA.—*Vanderburgh:* May come out better than is now anticipated, several good rains having fallen recently. *Vermillion:* Very good on lowlands; injured by drought on sandy soil. *Franklin:* Some good fields are seen, but most of the crop is very late and of inferior quality; recent rains prevented its ripening; the outlook is not encouraging, though it is earing better than was expected some weeks ago. *Fayette:* Only a half crop; the rains came too late to be of much benefit. *Floyd:* Light in consequence of the drought, but recent rains will insure a fair crop from late planted. *Hancock:* Has made rapid improvement since last report, and now promises nearly a full crop. *Jay:* Almost a failure in consequence of the unprecedented drought which prevailed during July and August. *Jefferson:* Condition difficult to estimate, some fields being very good, others entirely worthless. *Madison:* Will be improved by recent fine rains. *Rush:* Has made great improvement since last report; with a favorable fall will exceed last year's crop, and will be of better quality; there was a large increase in acreage, owing to the fact that much wheat was plowed up and planted in corn. *Wabash:* Prospect improved by the rains of ten days past. *Putnam:* Slightly improved by recent rains. *Wayne:* It is impossible to tell what effect the rains of August will have on the crop; it has suffered severely from the drought. *Dubois:* Late planted is improving, and should no heavy frosts occur within the next three weeks a fair crop will be harvested. *Kosciusko:* Outcome of the crop still in doubt; on sandy soils, where it promised best early in the season, it suddenly "fired" and was cut short; late planted on clay soil has been improved by recent showers, and will be a good crop if the season for maturing is sufficiently prolonged. *Knox:* Improved by August rains, which came too late, however, to bring the crop up to average. *Lawrence:* Copious showers of the past two weeks have improved the prospects somewhat. *Marion:* A slight improvement may be noted since the recent rains fell, but they came too late to be of material benefit. *Warren:* A short crop; looks well in some spots. *Whitley:* Suffered severely from the drought of July and August; on muck and low lands there will be some good corn if frost holds off; the nights are very cool and the crop maturing very slowly; one light frost has already occurred, but no damage done. *Monroe:* Injured by drought of July and the first half of August. *Montgomery:* The present crop represents a greater cash value than any ever grown in the county. *Morgan:* Improved by late rains but still short. *Newton:* The estimate given, 95 per cent., will be lowered, should frost occur before September 20, as much was planted late. *Ohio:* Late planted improved by recent good rains, but the crop will be short. *Shelby:* Ripening, but no improvement is noticeable in condition. *Switzerland:* Damaged by excessive rains early in the season and later by drought. *Allen:* Cut short by the severe drought of July and the first half of August; less than a half crop. *Bartholomew:* Greatly damaged by the drought, which was unbroken from June 20 to August 3. *Clay:* Was somewhat benefited by three or four rains which occurred during August, still a large part of the acreage planted is a failure. *Hamilton:* Has not developed rapidly during the month of August owing to the unusually cool weather. *Huntington:* Some just beginning to silk, while in the same field some is getting hard; here and there a field is found to be entirely matured. *Lagrange:* But little of the crop is matured; with favorable weather for a month the estimate given, 35 per cent., may be increased. *St. Joseph:* Damaged by the drought and extreme heat. *Wells:* A failure on clay soil. Fodder too short to be cut. *Union:* Condition improved by recent showers. *Howard:* An improvement of 20 points may be noted since last re-

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port, owing to the copious rains of recent date. *Blackford:* August rains came too late to be of any benefit. There are hundreds of acres that will yield less than five bushels each. *Perry:* Has made rapid growth and if not injured by early frosts may make a better crop than the figures given, 78 per cent., would indicate. *Posey:* Materially improved since August 1. *Steuben:* Was planted late in consequence of the cold, wet spring and just as the ears were forming the drought set in, cutting the crop short. Some fields will not make five bushels per acre, others about half an average yield. *Grant:* All late, and should early frosts occur it will fall below the per cent. given, 60.

ILLINOIS.—*Schuyler:* Although the condition at present is nearly up to a full average, the yield will fall at least 35 per cent. below. *Jackson:* Improved by recent showers, especially the late planted. *St. Clair:* Seriously damaged by the severe drought which still continues. *Williamson:* The abundant rains now falling will improve late planted; in some localities the crop will be fair. *Effingham:* Almost a failure except on fallow lands where well cultivated; on these it may make 80 per cent. of a full crop. *Alexander:* Has improved since the recent rains came; should frost be delayed a little longer than usual will probably make about a two-third crop. *Lawrence:* Injured by hot, dry weather. *Massac:* Shortened fully one-half by drought. *Stephenson:* Very uneven; some fields showing fully up to average; others being exceedingly poor. *McHenry:* Greatly improved by the timely rains and warm weather of the past two weeks. If frost does not occur before the 15th of September the crop will be a full average one. *Shelby:* Will barely make three-fourths of an average crop, owing to the drought and hot weather of July and August. Many farmers are now cutting and feeding green corn. *Edgar:* Will be an average crop in some portions of the county; in others will fall below. *Greene:* Greatly improved by recent rains; where well cultivated will be almost an average. Frequent stirring of the soil has proved to be the great remedy for a dry season. *Kendall:* Only a half crop in consequence of the long-continued drought. *Lee:* Has improved since the recent rains came. Should frost be delayed for some time will make two-thirds of an average crop, and promises to be of sound quality. *Woodford:* Materially benefited by late rains. *Hardin:* Much improved by recent rains, especially late planted, which will now make a fair crop. *Johnson:* Can not make over three fourths of an average yield. *Henderson:* The showers of the past three weeks came too late to benefit corn except to prevent it drying up so rapidly. *Bureau:* Crop shortened by the severe drought which has prevailed through this portion of the corn belt. *Champaign:* Materially benefited by recent rains; the indications are now for four-fifths of an average crop provided frost is delayed for two weeks longer. *Cumberland:* An improvement of 10 per cent. since the late rains fell. *De Witt:* Improved 10 points since last report. *Gallatin:* Early planted, almost a failure; late, improved by recent rains. *Jo Daviess:* Late, but promises 90 per cent. of a full average should frost be delayed for four weeks from date. *Kankakee:* The open, wet winter without frost left the ground in poor condition to resist the drought of July and a part of August; in common with all other crops it is now far below the average. *Knox:* Improved by August rains; will probably make 75 per cent. of a full crop. *Madison:* More or less damaged by drought in all parts of the county, being an entire failure in some localities, in others promising three-fourths of an average crop. *Marshall:* Was too nearly matured before the recent rains came to be much improved as to yield, but it is filling well and with two more weeks of warm weather will be secure from frost. *Marion:* Light on high ground; good on bottom lands. *Perry:* Greatly benefited by the rains of the past two weeks. *Putnam:* Will be fair on tiled lands, but on sandy or clay soil will be only a half crop. *Rock Island:* Nearly ripe and can not now receive any benefit from rain. *Vermilion:* Largely above the average, and now promises to fully mature. *Wayne:* Has come forward rapidly owing to abundant rains and is now in splendid condition—not up to last year's crop, but above the average of the four years previous. *White:* Has developed beyond our most sanguine expectations since the

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drought was broken; the best crop within five years except the last one; nearly a full average. *Bond:* Almost a failure, there having been no rain of any consequence in eight weeks. *Edwards:* Somewhat improved within the past two weeks, the drought being broken at last. *Franklin:* Improved by recent rains. *Fulton:* Made wonderful improvement during August, the rains having come just in time to save it; should it escape early frost will be one of the biggest crops ever grown in the county. *Macon:* Quality will be good, but yield light. *Menard:* A short crop, but generally well filled. *Morgan:* Damaged by excessive rain-fall early in the season; later by the hot weather of June, followed by drought. *Pope:* Seriously hurt by drought. *Randolph:* Has rallied slightly since the rains of August came. *Sangamon:* Injured by dry weather in August. *Warren:* Very uneven; will make from 10 bushels up to 45 per acre. *Winnebago:* Very uneven; late planted will require three weeks to mature; early planted is now beyond danger of frost. *Moultrie:* Now maturing well; was cut short by the drought of July. *Tazewell:* Nearly an average crop. *Saline:* Has made wonderful improvement during August, still the yield at gathering will probably not exceed 50 per cent. of an average; much is late in maturing and liable to injury from early frosts. *Stark:* Rains came too late to be of material benefit. *Washington:* Suffered severely from drought, there being no rain from June 20 to August 24; will average from 10 to 15 bushels per acre. *Montgomery:* Improved by recent rains, and though there will be no surplus the crop will supply home demand. *Wabash:* Greatly improved by recent abundant rains. *Fayette:* Cut short by dry weather.

IOWA.—*Kossuth:* Without frost, in two weeks corn will be at least 25 per cent. more than an average. *Howard:* Though a very promising crop it will require two weeks more of steady warm weather without frost to make corn a full average crop. *Greene:* Maturing well; weather still dry. *La Fayette:* Doing well and will be ripe in ten days, with good weather. *Des Moines:* Rains came too late for corn. *Marion:* Very poor from drought. *Plymouth:* Damaged considerably by the August drought. *Fremont:* Reduced 50 per cent. by recent drought and heat. *Wapello:* Improved very materially by frequent rains in August. *Story:* Very promising; should there be no frost in three weeks we will have very near an average crop. *Appanoose:* Wonderfully improved by late rains. *Tama:* Later than usual in maturing. *Iowa:* Greatly improved by late rains. *Dubuque:* Much improved by late rains. *Black Hawk:* Late, but an average. *Benton:* Short from the very wet May and subsequent severe drought. *Montgomery:* Affected by drought. *Keokuk:* Considerably improved by the August rain. *Franklin:* Short crop. *Cherokee:* Filled out remarkably well owing to late rains in August. *Audubon:* Late corn will be reasonably good with continuance of warm weather. *Mahaska:* Rains came too late to do good; will be a very light yield; some fields not worth gathering. *Osceola:* Reduced one-half by drought. *Bremer:* That planted before May 10 is not a good stand; did not come up well and grew very slow, and did not ear well. Corn planted about May 20 is fully as good as usual. *Calhoun:* A fair crop of good quality. *Hamilton:* Average crop and out of danger from frost. *Jefferson:* Much improved by rains in August. *Linn:* Light crop. *Madison:* Seems to be filling out owing to recent rains. *Monroe:* Materially advanced by August rains; if frost keeps off we will have a good deal more corn than expected. August 10. *Page:* Ten days late; recent rains nearly brought it up; some pieces not well tended will not be much benefited by the rains. *Washington:* Recent rains brought out late corn wonderfully. *Worth:* Not out of danger from frost. *Sioux:* Materially injured by drought. *Shelby:* Fifteen days more will remove corn from danger by frost. *Palo Alto:* Helped by recent rains.

MISSOURI.—*Morgan:* Advanced 20 points since August 1; outlook is very good for solid corn and yield to excel expectation. *Sullivan:* It seemed to be badly damaged by drought and hot winds, but rain came, and now corn is a full average or more. *Barry:* In the western part of the county corn is 10 per cent. better than last year's, but in the eastern section it is much lighter owing to drought. *Cedar:* Will be as much as last year's and better on bottoms. *Hickory:* Full average owing to late

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rains. *Grundy:* Improved and now much better than anticipated owing to rains since August 3d. Average in the north section of the county; in the south part about one half crop. *Harrison:* Greatly improved by rains in August. Will be out of danger from frost in two weeks. *Howard:* Greatly advanced by recent rains. Yet growing, full of sap, and in danger of early frost. *Madison:* Gained 18 points since August 1st, owing to rains. *Pettis:* Steadily improved since July 15; without frost in the next three weeks it will be the finest crop since 1875. *Saline:* Greatly improved by good and frequent rains recently, particularly late corn. *Washington:* Will be heavy owing to late rains. *Wright:* Much improved by the August rains, but they came too late for some crops especially those not well worked. *Clay:* Advanced at least 20 points since last report. *Pike:* Advanced several points by late rains. *Lincoln:* Helped somewhat by recent rains, but they came too late to do much good. *Macon:* Improved very much by late rains. *Marion:* Fair in some places, especially on best land and river bottoms; very poor on prairie land, and some entirely worthless. *New Madrid:* Corn planted in April is very poor, but that planted in May and June is very good. *Phelps:* Good recent rains, but they came too late for early corn; late corn will improve with good weather from now to harvest. *Pulaski:* The lightest crop in years. *Atchison:* Rain came too late to help early corn, but much of the late planted will be benefited; will be little for export. *Cole:* Materially improved by recent rains; gained 20 per cent. since rain. Will be enough for home consumption. *Davies:* Rain came in time to save corn, which is a fine crop. *Dunklin:* Safe and will be an average crop in quality, but not in acreage. *Camden:* Nearly ruined in the eastern end of the county by drought and can not possibly exceed one-fourth crop; the western end had sufficient rain to make three-fourths of a crop. *Shannon:* Late corn revived by two good rains in August; some fields that looked to be failures on August 1 are now growing well and promise a fair yield. *Moniteau:* A 6¼-inch rain on August 13, but too late to save corn. *Mercer:* Maturing fine. *Lawrence:* Some blown down; still too green to cut down for fodder. *La Fayette:* Improved very much by the August rain; was 85 but is now 100. *Butler:* Greatly improved by August rains and will probably be three-fourths of a crop. *Barton:* Very uneven and estimate is difficult. *Audrain:* Improved in August. *Chariton:* Helped very much by August rains; advanced from 50 to 70. *Johnson:* A good average crop assured by the late heavy rains, except early planted corn; present weather is just right to perfect the crop. *Pemiscot:* Begins to improve in quality. *Oregon:* No rain from May 12 to August 12 except local showers; corn is much worm eaten and very late. *Adair:* Greatly improved by recent rains. *Christian:* Drought is broken and the rain is making the most of the damaged corn. *Iron:* Late rains helped some fields; crop is very spotted; some fields will not yield 2 bushels per acre. *Caldwell:* Seasonable rains assured an almost perfect crop. *Linn:* Improved more than expected by the late rain. *Shelby:* Improved by late rains. *Perry:* Rains came in time to save the corn, which looks fine. *Newton:* Greatly damaged by long drought, hot winds, and later by excessive rain and high winds, which blew the corn down and caused lodging. *Mississippi:* Damaged nearly one-half by the severe drought. *Jasper:* Improved by recent rains. *Holt:* Benefited by late rains and is now a full average.

KANSAS.—*Harper:* Will be enough to carry stock through and feed teams if carefully managed. *Kingman:* The worst season for corn in seventeen years. *Barber:* A failure in some places; no rain from June 18 to August 22, with temperature from 90° to 113° in the day, and 70° to 80° in the night. *Clark:* Nearly a failure; not 200 bushels of good corn grown in the county; no rain from June 7 to August 23. *Elk:* Fair in two townships but a half crop in the remainder of the county on account of drought. *Montgomery:* August was favorable to corn, which recovered somewhat under temperature below normal and normal rain-fall; now estimated at two-thirds of a crop. *Rush:* Almost a failure from drought. *Miami:* Wonderfully helped by rain since August 1; the county will average 25 bushels per acre at least. *Anderson:*

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Drought is broken but not soon enough to prevent great damage to corn. *Sherman:* Will be a small crop in some localities, but generally there will be nothing but fodder. *Linn:* Fine August rain materially improved corn; corn that was thought to be too far advanced to be benefited by rain has filled out and is not so chaffy; late corn is doing well and many farmers claim 25 to 40 bushels per acre. *Franklin:* Some fields are fully 100, and others that do not yield a bushel per acre. *Comanche:* Reduced to 10 by drought in June and July. *Cloud:* Rain came too late to save corn. *Brown:* Improved by August rains. *Ellsworth:* Nearly a failure. *Neosho:* About ruined by the July drought; on some rich bottoms will yield 30 bushels per acre, but a great deal of prairie land will not give 10 bushels per acre. *Reno:* Late corn was helped by a good recent rain; the crop will be better than many predicted. *Saline:* Total failure. *Woodson:* Struck by drought just before the shooting season, and many fields of corn were turned to fodder. *Wyandotte:* Too far advanced to be benefited by the recent bountiful rains. *Atchison:* Late rains were quite an advantage to corn. *Allen:* Advanced at least 10 per cent. owing to abundant August rains. *Cherokee:* Revived by late rains and will be fully three-fourths of a crop. *Jackson:* Some fields favored with showers will yield 40 bushels per acre; in other localities some pieces will not yield 5 bushels per acre. *Lincoln:* Nearly a total failure. *Morris:* Rain came too late for corn. *Pawnee:* Destroyed by hot winds and drought. *Marion:* Hundreds of acres will not give an ear. *Mitchell:* No corn on upland, and not more than one-fourth crop on bottoms. *Sedgwick:* Not half worth husking; worst season for corn since 1877.

NEBRASKA.—*Keya Paha:* Reduced 50 per cent. by drought. No rain since July 18. *Madison:* Very uneven. *Wheeler:* Many fields injured by drought and hot winds in July and August. *Polk:* Almost a failure because of drought and hot winds. *Saunders:* North part of the country had enough rain to make good corn, but it will require three weeks more of good warm weather to make good quality. In the southern and eastern parts of the county it is drying up. *Saline:* The failure is due to hot southwest winds. Corn leaves curled and wilted under their influence in less than a week after a good rain. It will yield from 0 to 70 bushels per acre (in some cases in the same field). *Blaine:* Affected by protracted drought. August rains failed to revive it. *Red Willow:* Most of it is being cut for fodder. The little left is fine. *Platte:* Most fields in this vicinity are dried up. Some fields will have no corn and some will go from 5 to 25 bushels per acre. A few pieces in the northern part of the county will be nearly average. The causes are drought and hot winds from the south. *Lancaster:* A few light showers in forepart of August helped many fields to a certain extent, but much of the crop was past help before rain came. *Jefferson:* Did not do well in August owing to drought. *Holt:* Nearly all on uplands was destroyed by drought during the two first weeks in August. Will be two-thirds crop on lowlands. *Douglas:* Never so good and as much corn before. *Dixon:* Damaged by drought. *Antelope:* Beyond help by drought. *Gosper:* Will be none for market and insufficient for home use, though the prevailing rains may make a little corn. *Johnson:* August was too dry for corn. *Fillmore:* Nearly ruined by drought. *Frontier:* Almost all a failure. *Hamilton:* Hundreds of acres will not be anything but fodder. There is more of the latter than ever before. The crop will probably not average 5 bushels per acre, and according to travelers we have as good crop as the State will average.

The crop in the Northwest, the Rocky Mountain region, and the Pacific coast, though small in quantity and in proportion to other crops, promises fairly with some exceptions. Its condition in Colorado is reported relatively low.

Throughout the country the crop must be considered a poor one, not the worst known, but bad enough to make merchantable grain valuable property eagerly sought.

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WHEAT.

The returns of condition of winter wheat at the time of harvesting are less favorable than those of the 1st of July. So far as thrashing has progressed the results are generally disappointing. The July average was 76.2, the present average 73.5.

The general average of spring wheat has also been reduced from 83.2 to 79.8. The average for wheat of both kinds is 75.5. In 1888 the September average for wheat was 77.3. It was 73 in 1881. The yield of spring wheat is unusually variable in the Dakotas, ranging from high yields to 5 bushels and less per acre. The progress of thrashing will develop the extent of these differences.

The following statement shows the changes in condition in winter wheat:

Years.	April.	May.	June.	July.	September.
1885	76.3	70.0	62.0	65.0	68.0
1886	94.1	94.9	92.7	91.2	90.8
1887	88.1	85.8	84.9	83.5	84.0
1888	82.0	73.1	73.3	75.6	77.4
1889	94.0	96.0	93.1	92.0	89.4
1890	81.0	80.0	78.1	76 2	73.5

The changes in spring wheat are thus recorded:

Years.	June.	July.	August.	September.
1885	97.0	96.0	93.0	86.0
1886	98.5	83.3	80.1	83.5
1887	87.3	79.3	78.8	78.1
1888	92.8	95.9	87.3	77.2
1889	94.4	83.3	81.2	83.8
1890	91.3	94.4	83.2	79.8

OATS.

The condition of oats is the lowest ever reported at the date of harvesting. The decline since the last report has been almost six points—from 70.1 in August to 64.4. The rate of yield will be the smallest in twenty years, and the price must inevitably be high. For details of condition see the abstract table.

RYE.

Rye yields less than was expected, as generally condition at harvesting averages only 85.4, a decline of over six points since the report in July. It suffers less, as usual, than wheat in unfavorable seasons.

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BARLEY.

The September returns show the average condition to be 78.6, against 82.8 last month. The September average of last year was 88.9. In New York condition averages 58, showing a decline of 12 points during the past month. The plant was injured beyond recovery by excessive moisture in the spring. The correspondent in Cayuga County remarks that it is "the poorest crop ever known; will not nearly hold out in weight." Improvement is noted in Wisconsin, the average condition being 80 as against 78 last month. The grade and yield are uneven in some localities, while there is general complaint of "coloring" and "shrinkage," caused by drought. It is held to be the best paying crop of the season by some correspondents. Condition in Minnesota is placed at 90, promising a fair result in both yield and quality. In Iowa the decline has been 4 points—from 90 last month to 86 on the 1st of September. Average condition in California has declined during the past month from 84 to 80. The quality of the grain was good, but the yield inferior.

BUCKWHEAT.

The crop has maintained its position during the past month, condition being 90.5 instead of 90.1 last month. There has been improvement in New York and Pennsylvania, where two-thirds of the whole crop is grown. Prospects are encouraging for an average crop. Some fears are entertained as to damage by early frost. Rain in August improved the outlook. Condition in Pennsylvania is 94. In localities where the crop was damaged by drought, in June and July, the recent rains have caused slight improvement. States of smaller production, with the exception of Michigan, where drought and early frost caused great damage, report the outlook to be encouraging. General fear is expressed, however, of injury by frost before the grain matures.

POTATOES.

The September returns on condition show a heavy decline during the past month, from 77.4 to 65.7, or nearly 12 points. This is the lowest September average in ten years, the nearest approach being in 1887, when condition was reported at 67.3.

The Atlantic and Gulf States, which however produce a very small portion of the crop, report condition from 6 to 34 points higher than the general average. The crop in the New England and Middle States was damaged to some extent by rot and rust. A New Jersey correspondent claims a crop which "will go far to relieve the farmers from the financial pressure under which they have been laboring for the past few years.

The extreme drought did great damage throughout the Central and

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trans-Mississippi States. The crop was too far advanced for the recent rains to benefit materially. The ravages of the beetle did greatest damage in Kentucky, Minnesota, Missouri, and Nebraska.

SWEET POTATOES.

In the States of principal production the outlook for an average crop is encouraging. The crop in Virginia needs rain, while in Alabama, Texas, and Tennessee rains during August materially improved condition. Louisiana reports increased acreage, with good prospects of large yield and fair quality. The Central and Western States show slight improvement during the past month.

COTTON.

The statistical returns for September are less favorable for cotton than those of August. On the Atlantic coast rains following a season of drought have caused rust and shedding of leaves and fruit. The impairment of condition has been 8 points in South Carolina and Georgia, and 9 in Alabama.

Local reductions are reported in North Carolina, though the average condition is but slightly lowered through heavy rains and cool nights. The high condition of Tennessee has also been well maintained, and the crop there is still growing and fruiting.

In Mississippi rains in July and early in August caused local injury, not so serious as in the more eastern States. The overflowed districts in Louisiana report improvement, and average condition for the State is higher, notwithstanding local reductions. The Arkansas average has also slightly advanced. Texas has suffered from drought in the central and western counties, which was reported last month, and has caused slight further impairment of condition.

The general average is reduced from 89.5 to 85.5, which is a fraction lower than the record of September, 1889. The State averages are: Virginia, 93; North Carolina, 95; South Carolina, 87; Georgia, 86; Florida, 90; Alabama, 84; Mississippi, 87; Louisiana, 93; Texas 77; Arkansas, 89; Tennessee, 94.

There is very little mention of the caterpillar, but the boll-worm has been unusually prevalent and active, from Georgia to Texas, and more injurious in the more western portions of the belt.

FATTENING HOGS.

The reported percentage of numbers of fattening swine is 97.3, indicating a slight shortage, and their condition 93.7. The State agents remark as follows:

MAINE.—In consequence of the increase of creameries, in some localities, there are more stock hogs than formerly, the condition being normal. There is no disease among swine.

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VIRGINIA.—Hogs have decreased as compared with 1889, both as to condition and number for fattening. Cholera is reported by many correspondents.

NORTH CAROLINA.—Hogs are not so numerous as before the fence law, but in better condition and free from disease. The only deaths reported are those occasioned by eating mushrooms during the wet spell in August.

MISSISSIPPI.—Hogs have suffered from cholera and other diseases. The number to be killed will be equal to last season, but the weight will be less.

TEXAS.—The number of fattening hogs, as compared with last year, will show an increase of 10 per cent. The farmers are giving them more attention than heretofore and are raising better and finer stock. Their condition, as to weight and size, is a full average.

ARKANSAS.—Stock hogs for fattening are about equal in number to those of last season, and are in good condition as a rule. The average is somewhat larger, as to age and size, owing to the fact that last winter was not favorable for home packing, and many were kept over.

OHIO.—The short pastures have had their effect in cutting down the average weight of hogs, and farmers are pushing into the market brood sows as well as half-grown shoats, because corn is scarce and high and pork low.

ILLINOIS.—The number of fattening hogs is less than one year ago. There is cholera, so called, in some parts which always is an occasion for marketing everything that will sell. The scarcity of grass and the higher price of corn have contributed to hasten the sale, not only of the size usually marketed at this season of the year, but many of less than the average weight.

MINNESOTA.—Stock hogs are fully equal in number to those of last year, and their condition as to weight and size is satisfactory.

IOWA.—The high price of corn has forced hogs on the market very early.

NOTES FROM REPORTS OF STATE AGENTS.

MAINE.

A somewhat severe drought prevailed, generally, up to the 16th of August, the precipitation for this period being below the normal. The dry weather had begun to affect crops unfavorably, when showers and rains set in, which were general, and greatly benefited all growing crops. Though corn is at this date of good growth, it has not yet recovered from the set-back of the late spring, and is from ten to thirteen days backward of an average season. Oats recovered somewhat from the early unfavorable conditions, and will not be greatly below the average. Barley and buckwheat promise an average crop. Pastures are good.

The condition of the potato crop has improved since the rains, and Aroostook correspondents report an average condition.

The apple crop will be poor and light. No correspondent sets the yield above 50 per cent. of an average, and many only 25 per cent. The fruit is wormy and dropping badly. The scab and rust are affecting both fruit and foliage in many sections.

VERMONT.

The condition of crops in general is below the average. Corn is just in the milk and a frost, which seems probable before it can mature, would do it great injury. In view of this, a few fields are being cut up—the farmers preferring to cut a little too soon, rather than wait and run the risk of having it killed by the frost. The oat crop has been poor from the beginning. It did not start well and leaf rust held it back until it was thought in many sections that the grain would not head out. It did, however, but the crop is light and imperfect. The hay yield is scarcely more

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than three-fourths of a crop, but the quality is excellent. Potatoes and tobacco as a whole, are very fine with remarkably good yield, but they are not wholly out of danger yet, as the weather is unfavorable for harvesting.

Apple trees blossomed well, but rust, mildew and worms together have blighted the crop.

CONNECTICUT.

The weather of the past month has been generally favorable. Corn is maturing finely, and promises a full average crop. Oats suffered early from a louse, causing the leaves to rust, but later recovered and gave a fair crop. In some places they were largely cut green, for fodder. Buckwheat is doing well, and, with a few more days of favorable weather, a good crop is assured.

Potatoes promised well till about the middle of August, when the rot appeared, which will seriously diminish the crop. Early potatoes on dry land matured before the blight came, and are sound.

Apples, in a few localities, are fair and of good quality, but many are cracked, spotted, and wormy, and the quantity of merchantable fruit will be very small. Some large orchards will not yield a family supply.

NEW YORK.

There was a slight frost August 16 and 17, followed August 19 by a general rain which changed the seared appearance of the pastures and meadows to greenness, and gave promise of autumn feed. Other rains followed within a few days and have continued, so that plowing is progressing finely all over the State, and later crops are improving. For more than a month there were only very light showers, and water became scarce in many sections.

Corn was shortened in growth of stalk and in the filling out of the ears, especially on land which had been wet and was hard. This crop is unusually late and is reduced in average condition. Wheat and rye proved to be not well filled in some sections, and in others where the heads were full the grains were more or less shriveled. These crops, with all others, were harvested in most excellent order. Oats were thin in stand, with very little stooling out, hence the yield is small. A large area was drowned out or exceedingly scattering. The Aphis and rust did their work more effectually than many supposed. The quality of the grain is, however, better than for two years, being from 5 to 10 pounds heavier per bushel than last year. Barley is reduced, as the ground was too wet early in the season for a good yield, and too dry and hard later on.

The rains came in time to bring late sown buckwheat forward rapidly and to furnish the moisture needed by the early sown. It is not so rank and thick on the ground as usual. Potatoes are reduced in average condition. Early potatoes yielded light, and the prospects for the later kinds, and those late planted, are not satisfactory. Some blight and rot is reported, and there were few potatoes in the hill up to the time of the rains. The excessive drought has reduced the condition of tobacco.

Apples have continued to drop badly, and the quality of those left is poor. Peaches are light. Grapes are a large crop; but they are late and will require a warm September to mature some varieties. The complaints of black-rot and mildew have not increased. The hay crop of New York is immense.

PENNSYLVANIA.

The latter part of July and first of August was quite dry, but during the middle and latter part of August rain has been abundant in all parts of the State. Corn is doing well, and if frosts are delayed a few weeks, all of it will ripen, but the ears are short. Wheat has many small grains and is not yielding as well as expected. Oats are rotting in the shock in some sections; light in straw but yield fairly well to the

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amount of straw. Buckwheat promises a fine crop if frosts are delayed. Early planted potatoes did not come up well—in many fields one-fourth to one-half are missing. Recent rains have improved the late crop, but rot is reported in many counties. Grapes are rotting on the vines.

VIRGINIA.

Owing to the very general rains, corn has advanced in condition since last report. The wheat yield proved, on threshing, less than was anticipated. Late Irish potatoes were much injured by the drought in June and July—the early crop was generally a good one.

NORTH CAROLINA.

The corn crop is the best we have had for years. Tobacco has suffered some from August rains; but a recent visit through several of the best tobacco counties in the Piedmont section, showed a fine growth, which is two weeks earlier than usual in maturing. Much of the crop has been saved and some already marketed, bringing fine prices. Cotton has been somewhat injured since last report by heavy rains which have caused some shedding of blooms and shapes. The crop is now being harvested and some new cotton was on the market as early as August 24.

GEORGIA.

The large falling off in the condition of the cotton crop since August 1 is due mainly to the prevalence of rust, of which the complaint is very general. The cause of this rust is a question not satisfactorily solved.

We had too much rain in May and August, and too little in June and July. The rains during the latter part of August were not heavy (as indicated by the rain-gauge) but there were many days of cloudy damp weather which prevented proper pollenization of the flowers and caused them to drop, or in the vernacular "shed." The same conditions favored the ravages of the ball-worm, which has been more than usually prevalent. The general expectation is that the crop will fall short.

Peas, peanuts, and potatoes, as well as late grass, are all promising.

MISSISSIPPI.

The early planted corn crop suffered from drought in the early part of the spring The late, or June planting, is doing well, but will not bring up the average to a plentiful crop. Rye is fully up to a good crop. Oats did not turn out as well as expected. The stalk looked much better than usual, but the grain proved rather chaffy. Irish potatoes were never better, and the sweet potato crop promises a good yield. The tobacco crop is very small, but indicates a fair yield.

The cotton crop, up to two weeks ago, was reported to be the finest that had been seen for years, but the rain-storm of a week ago, which continued for two days and nights, tangled up and blew down a great deal of it, reducing the condition at least 10 points.

Only a small area of sorghum was planted but the crop is doing well. Sugar-cane is promising, and will make a heavy crop. Apples are reported from only a few localities. The quality is poor. No peaches are reported. The grape crop is universally good.

LOUISIANA.

Corn is fully matured and the crop as a whole is a good one. There are reports of damage from rains, but not enough to change the general average to any appreciable extent. Oats, long since harvested, are neither in quality nor yield up to last season—being injured by the cold. The red variety, heretofore considered invulner-

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able, was considerably affected with rust. The early crop of Irish potatoes was partially destroyed by late freezes, but later plantings escaped and produced an excellent yield with superior quality.

There is very little change in the general condition of the cotton crop since the last report. Complaints of rust, shedding, caterpillar, and boll-worm come from various localities—the latter being particularly destructive. The only method yet devised for their destruction is that of placing lamps at intervals throughout the fields. Cotton-picking has become general. Timely rains, especially in the northern part of the State, have been productive of much benefit, and farmers are encouraged thereby.

Sugar-cane promises even better than the last report indicated. A decline of a few points has been caused by a severe gale during the latter part of the month, which blew down the heavy growth. Plant cane is reported from 5 to 30 points above an average. Stubble is below in stand and generally above in vigor.

Among fruits, apples and peaches can be classed as a total failure, and grapes a partial one. The orange crop will be from 25 to 33⅓ per cent. short. The rice harvest is still in progress and will continue through the month. Storms damaged the early grain to considerable extent, while late rice was much benefited by the rain.

TEXAS.

Corn, owing to a long drought, will not yield as much as was anticipated; however, a very fair crop will be gathered. Wheat will not average more than half a crop, and in some places is an entire failure. The shortness of the crop was particularly noticeable in north Texas, usually one of the best wheat producing sections of the State. Oats are very good, and have yielded about two-thirds of a crop. Both Irish and sweet potatoes have done well.

Cotton has not done so well as was expected, the drought affecting it considerably. Late rains have been beneficial in bringing out the "top crop," except in places where the worms had attacked it. While their damage was not general, it has been very harmful in some localities. The farmers are busy getting out the crop, and it is bringing 9 cents per pound in the market.

ARKANSAS.

During the last three weeks of July and the first two of August, growing crops suffered greatly from heat and drought; since which time frequent showers have materially improved the prospects. Early planted corn has done fairly well; that planted late was nearly ruined by the drought. It has improved greatly though, during the past ten days, and the indications now are that something over half an average crop will be harvested.

Late Irish potatoes will possibly yield half an average crop. Sweet potatoes have suffered from drought, but an average crop is now nearly assured.

The tobacco crop will be an average one in point of quality and yield.

Cotton has maintained the rather high average of a month ago, and, so far, has suffered no serious drawback. It has fruited well and held its fruitage meanwhile. The indications are that the picking season will open a few days later than usual.

The sorghum crop is in good condition and will be at least an average one.

Apples and peaches are a failure. Grapes have done fairly well, but have suffered from rot and the ravages of the "leaf-roller."

KENTUCKY.

The condition of late corn is the best. Early planted suffered much from drought. The stalk hardened and the tassels dried up. The crop is yet very green and sappy and fully two weeks late. Tobacco is also about two weeks late and on old land is very uneven, with about 15 per cent. missing in the hill. Fruit is small, very inferior in quality, and is dropping badly. Grapes are rotting considerably.

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OHIO.

Corn was seriously affected by the drought. Late rains have improved its condition somewhat, but the crop will be short; the greatest shortage will be in the valley counties, which usually furnish the shipping surplus. In Butler, Miami, and Darke Counties farmers are already buying corn to feed. Wheat is turning out very unsatisfactorily. The berry is light and shriveled. Potatoes are also a short crop, owing to the drought. The late rains had no effect upon them, as the vines were dried up.

MICHIGAN.

In the extreme southwestern part of the State, where the drought continued till past the middle of August, the condition of corn has fallen off materially from the report of August 1, but has been partly made up by timely rains in the central and northern counties, the average showing a decline of 6 points during the month. Oats when harvested were disappointing in quantity and quality, having suffered at a critical time in their growth and maturity from the extreme heat, hot winds, and drought. Potatoes have fallen off in condition 18 per cent. during the month from the same cause, and the rains came too late to be of much benefit, except in some sections of low ground which was planted very late. Pastures have been much improved by the recent rains, and with favorable weather later on there will be an abundance of fall feed. Young clover suffered from the drought, but is now showing considerable life and vigor.

INDIANA.

Rains during August materially benefited late corn. There are a few counties and parts of counties in the northwestern section of the State that will mature an average crop if no heavy frosts appear this month. Late potatoes were too much injured to be improved by the August rains. Pastures are growing luxuriantly, and grazing is good. In some sections grapes are slightly affected by black rot. Apples have dropped from the trees badly, in consequence of the exceedingly hot and dry weather during the month of July.

ILLINOIS.

The mean temperature of August was 2 degrees below the normal. Nearly all parts of the State were suffering for rain on August 1. Until about the 25th of the month the rains were light and scattering, but on that day something like a general rain fell, light in some localities and heavy in others, greatly relieving the dry pastures and helping the late-planted corn. There has been slight improvement in the condition of corn in the central and southern divisions, but a falling off of 8 points in the northern division, which brings the average below the figures on August 1. There is much late corn in the northern counties, occasioned by excessive wet weather during May. The late rains will improve this part of the crop, and a few weeks without killing frost will add something to its present condition.

The estimate of the wheat crop is slightly increased, as thrashing has developed a better yield per acre than was expected. Irish potatoes are less than one-third of a crop, from want of sufficient moisture. The apple crop is poor in quality, and estimates of the crop continue to fall until only one-third of a crop is now expected.

WISCONSIN.

Drought has prevailed generally the past month. Cool nights the greater portion of the time have retarded, in a measure, the growth of corn, but the warm days have increased the average of condition since the last report. If frost holds off for twenty days the condition will be materially increased, except on poor land badly farmed. On clay soil rot has done considerable damage to potatoes. But little wheat has been thrashed as yet, and the yield is represented as disappointing.

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MINNESOTA.

Corn in some parts of the State has suffered for want of rain, but on the whole it is a fair average. Wheat was injured in several localities by blight and rust. Since thrashing has commenced, however, it turns out better than anticipated; and while the yield will hardly reach that of last year, the crop will be a fair one. Rye is excellent. Oats are damaged by rust. Barley was harvested and stacked in excellent condition. Buckwheat is late but promising. Potatoes are below the average.

IOWA.

The drought is broken and corn is improving and maturing rapidly. Late potatoes are doing well. Grapes are yielding nicely.

SOUTH DAKOTA.

Since last report dry weather and hot south winds have seriously reduced the condition of corn, wheat, oats, and potatoes. With the exception of local showers, no rain has fallen since July 10. All late-planted grain has suffered by blight, many of the heads being only half filled. Early-planted potatoes are in good condition, while late-planted will be practically a failure.

MISSOURI.

During the month of August the rain-fall varied throughout the State, from 3 inches above the normal in the western portion and 1¼ inches in the southern to 1½ inches below the normal in the northeastern section. The temperature was about 3 degrees below the normal for the State. The effect of the weather resulted in a marked improvement in the condition of corn, where the crop had not matured, excepting in the northeast section, where there has been a falling off of 3 points. Wind and hail storms have been rare this season, and insects have done less injury than usual; so the damaged condition is due to the drought. The wheat crop was harvested under very favorable conditions, and the quality of the grain has been rarely equaled. In many cases, however, it is badly mixed with chess. In a large portion of southeast Missouri oats were a complete failure, owing to the ravages of the grain aphis; while in other sections drought seriously injured the crop, making it light in weight and yield. In the northwest, however, thrashing shows a better yield than was anticipated. Buckwheat shows an improvement in condition as a result of the rain.

Irish potatoes have fallen yet lower in condition than last month. Rain came too late to help the early crop, and digging shows a poorer yield than was anticipated. Apples, owing to the late freeze, the protracted drought, and the prevalence of the codling-moth, show a lower condition than was reported last month.

KANSAS.

The month of August was characterized by a sufficiency of rainfall for all crops. While the corn crop was too far advanced to be materially benefited, this condition was very favorable to the growth of sorghum, broom-corn, and other minor crops. In counties where corn is a failure the stalks are being rapidly cut up, and a large acreage of millet and sorghum has been sown since the 1st of August for winter use. The dry weather in July was very favorable to the harvesting of wheat and oats, and both crops were secured in good condition. Thrashers in many instances report the yield of wheat better than was expected, and the quality universally good. Oats were short in straw, but the heads were well filled.

Irish potatoes have not recovered from the loss of condition sustained in July, and will be a very light crop.

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Apples in some parts of the fruit-producing districts are falling. Peaches are plentiful only in a very few counties, and the earlier varieties are of an inferior quality. Late varieties are more promising. Vineyards are not producing as well as was expected one month ago, but the fruit is of fair size and excellent quality, being generally free from blight and insect ravages. The area of flax harvested this season is double that of last year. This crop is growing to be one of the most important in some of the eastern counties. The yield is from 10 to 14 bushels per acre, and, at present prices, is paying better than wheat.

Table showing the average condition of crops September 1, 1890.

States and Territories.	Corn.—Average condition September 1.	Wheat.—Average condition when harvested.*	Rye.—Average condition when harvested.*	Oats.—Average condition when harvested.*	Barley.—Average condition when harvested.*	Buckwheat.—Average condition September 1.	Potatoes (Solanum tuberosum).—Average condition September 1.	Potatoes (Batatas edulis), sweet.—Average condition September 1.	Tobacco.—Average condition September 1.	Cotton.—Average condition September 1.	Sorghum.—Average condition September 1.	Sugar-cane (not sorghum).—Average condition September 1.	Apples.—Average condition September 1.	Peaches.—Product compared with an average.	Grapes.—Average condition September 1.	Stock hogs.—Number for fattening compared with last year.	Stock hogs.—Average condition as to weight and size.
Maine	85	90	84	82	88	98	99	....	....	....	....	....	35	....	70	103	99
New Hampshire	89	89	88	76	80	84	94	....	....	....	....	....	43	....	75	102	99
Vermont	75	91	95	70	88	96	97	....	....	....	....	....	47	....	63	98	97
Massachusetts	93	....	96	71	78	99	89	....	97	....	....	....	29	36	75	100	99
Rhode Island	94	....	95	70	89	....	97	....	....	....	....	....	26	18	55	99	98
Connecticut	97	81	82	75	77	98	75	....	99	....	....	....	22	12	51	104	98
New York	78	88	91	56	58	90	73	....	88	....	....	....	26	13	75	99	97
New Jersey	97	84	89	57	....	95	95	98	....	....	....	....	22	15	55	102	93
Pennsylvania	83	83	89	56	63	94	82	90	93	....	....	69	....	20	12	59	100	95
Delaware	83	81	....	53	....	....	94	90	....	....	....	....	....	20	....	85	100	100
Maryland	90	80	88	50	90	92	79	86	74	....	....	95	....	26	5	60	99	99
Virginia	91	67	78	60	87	96	89	95	93	93	92	65	38	20	73	99	98
North Carolina	95	51	77	63	....	94	88	76	97	95	96	....	37	16	75	98	96
South Carolina	88	53	79	73	....	....	93	94	....	87	95	94	37	16	73	102	97
Georgia	90	52	75	69	....	....	92	95	....	86	93	91	34	12	75	101	97
Florida	92	....	....	73	....	....	95	97	....	90	86	95	35	22	63	101	99
Alabama	87	51	91	63	....	....	91	92	....	84	93	95	35	18	76	101	93
Mississippi	80	80	90	78	....	....	86	91	....	87	89	94	24	13	62	105	95
Louisiana	95	....	....	84	....	....	85	93	....	93	90	97	14	14	44	95	90
Texas	76	49	57	62	60	....	83	87	....	77	75	77	27	16	62	104	91
Arkansas	76	76	79	67	....	....	73	82	....	89	81	77	45	22	71	98	93
Tennessee	78	52	76	45	85	85	71	88	87	94	88	....	41	17	80	100	96
West Virginia	74	67	79	40	....	80	65	90	83	....	84	95	17	7	53	97	91
Kentucky	76	63	74	26	78	80	39	75	80	....	82	....	30	16	65	92	95
Ohio	56	77	83	55	82	79	46	80	66	....	65	74	15	11	65	90	86
Michigan	75	73	95	74	77	79	56	53	....	....	79	....	32	38	85	89	90
Indiana	70	62	85	58	82	66	45	70	67	....	74	80	35	30	72	97	92
Illinois	68	67	84	48	78	66	30	....	75	....	81	64	33	35	77	94	95
Wisconsin	88	81	85	78	80	86	68	....	88	....	84	88	60	....	82	97	95
Minnesota	87	83	92	80	90	85	65	....	....	....	88	50	65	....	85	101	98
Iowa	75	85	90	80	86	87	57	61	....	....	84	92	57	28	80	100	95
Missouri	77	80	85	58	75	86	49	75	68	....	81	....	50	26	75	98	94
Kansas	42	85	84	72	80	78	34	68	....	....	63	60	53	50	70	93	88
Nebraska	52	80	79	63	70	70	30	62	....	....	68	80	65	67	71	92	95
California	91	79	83	87	80	....	90	96	....	....	75	95	80	72	95	101	96
Oregon	89	92	96	89	91	96	89	....	....	....	98	....	81	77	90	101	99
Nevada	....	91	....	92	90	....	85	....	....	....	....	....	....	....	....	102	98
Colorado	77	83	76	73	82	....	80	....	....	....	....	....	65	30	81	105	100
Arizona	....	85	....	....	92	....	95	....	....	....	....	....	60	38	85	103	98
The Dakotas	48	68	65	72	75	65	60	....	....	....	....	....	25	....	70	95	87
Idaho	....	90	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Montana	....	92	....	90	87	....	92	....	....	....	....	....	....	....	....	96	96
New Mexico	76	90	....	87	76	....	85	....	....	....	75	....	65	60	60	101	85
Utah	94	94	95	90	92	....	93	....	....	....	89	85	66	31	85	101	98
Washington	95	97	95	93	92	....	97	....	....	....	....	....	85	82	87	104	99
Wyoming	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Indian Territory	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
General average	70.1	75.5	85.4	64.4	78.6	90.5	65.7	...	82.4	85.5	....	....	....	....	....	97.3	93.7

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PAN-AMERICAN TRADE.

The interest manifested in the affairs of our neighbors of the Americas lying to the southward, and the importance of present trade relations with those countries, warrant a careful preparation of the facts of commercial exchanges with them. The following figures are taken from the official records of the Treasury Department, gathered by the Bureau of Statistics. The agricultural items in exports and imports are carefully segregated and presented separately. In the totals by countries the agricultural totals are placed side by side with the aggregates of all exports to or imports from the countries of South America, those of Central America, and the group of islands constituting the West Indies.

The following is a statement of the exports to the countries named and imports from those countries, during the last fiscal year:

Countries.	Agricultural.		Total.	
	Exports.	Imports.	Exports.	Import.
Central America:	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Costa Rica	351,366	1,380,362		
Guatemala	314,091	2,264,410		
Honduras	138,223	1,050,689	4,146,511	8,414,019
Nicaragua	283,413	1,016,099		
San Salvador	212,195	1,636,913		
British Honduras	191,448	180,524	362,623	211,465
Total	1,490,736	7,529,017	4,509,134	8,625,484
South America:				
Argentine Republic	304,102	5,193,741	8,376,077	5,454,618
Bolivia	2,100	1,477	702,546	
Ecuador	275,672	480,797		696,005
Chili	341,763	103,492	2,967,254	2,622,625
Brazil	4,903,421	52,642,737	9,276,511	60,403,804
French Guiana	82,943			
British Guiana	1,231,151	4,512,593	2,038,643	4,526,181
Dutch Guiana	171,760	458,925		460,243
Peru	112,531	202,965	773,244	314,632
United States of Colombia	984,115	3,669,996	3,728,961	4,263,519
Uruguay	360,412	2,847,828	2,027,383	2,986,964
Venezuela	1,805,194	10,156,454	3,703,705	10,392,569
Total	10,575,164	80,271,005	33,654,324	92,119,560
West Indies:				
Danish West Indies	335,959	513,787		
French West Indies	1,320,232	99,382		
British West Indies	5,539,461	14,579,986		
Dutch West Indies	365,121	90,123	29,941,525	77,947,333
Hayti	1,955,406	2,948,295		
San Domingo	390,845	1,285,872		
Cuba	5,099,954	47,294,203		
Porto Rico	1,327,026	3,672,274		
Total	16,310,004	70,483,923	29,941,525	77,947,333
Grand total	28,405,904	158,283,945	68,104,983	178,692,377

The value of exports to these countries is about three-eighths of the value of imports from them. The exchange requires in cash, to settle the difference, more than $110,000,000. Almost four-fifths of the great aggregate of imports is for sugar and coffee, the former mainly from the West Indies, the latter mostly from South America.

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Exports of Agricultural Products to South America for the year ending June 30, 1889.

Articles.	Argentine Republic.		Bolivia.		Brazil.		Chili.	
	Quantity.	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*
Animals living:								
Cattle	40	$11,180			135	$38,940		
Hogs					4	200		
Horses	76	102,700	6	$2,100	23	39,000		
Sheep	81	11,605			10	750		
All other, and fowls		120				463		
Animal matter:								
Bones, hoofs, horns, and horn tips, strips, and waste								977
Glue	951	125			1,040	129	100	29
Grease, grease scraps, and all soap-stock		970				863		5,702
Hides and skins, other than fur						248		
Honey						18		
Oils:								
Lard	320	165			55,000	35,131	83,050	57,271
Other					6,563	4,091	10	7
Provisions, comprising meat and dairy products:								
Meat products:								
Beef, canned	3,220	202			33,712	3,019	6,854	601
Beef, salted or pickled					14,080	795	73,000	3,020
Beef, other cured					64,000	5,708		
Tallow					1,270	106		
Oleomargarine:								
Oil, the	41,557	3,637						
Pork products:								
Bacon	83	13			1,066,714	103,533		
Hams	3,837	539			4,511	628		
Pork, pickled					14,800	1,289	18,000	1,390
Lard	826,963	86,389			4,782,254	484,799	668,737	66,646
Poultry and game		20				57		
All other meat products		6,342				2,096		835
Dairy products:								
Butter	15	4			29,954	5,332		
Cheese	80	10			2,013	294	178	30
Milk						1,750		
Wax, bees'	235	60						
Total value of animals and animal matter		224,141		2,100		729,239		136,508
Bread and breadstuffs:								
Bread and biscuit	5,082	410			149,764	11,968	1,500	105
Corn	17,411	9,395			51,152	25,783		
Corn meal					869	2,571		
Oats	1,786	734			475	210		
Wheat					415,507	384,337	225,207	200,147
Wheat flour					678,972	3,651,908	145	789
All other breadstuffs and preparations of, used as food		952				26,274		245
Total value of bread and bread stuffs		11,491				4,103,051		201,346
Cotton-seed oil	4,401	2,358			13,454	7,237	350	300
Miscellaneous:								
Broom-corn						42		
Fruits and nuts								
Apples, dried	3,100	225			1,255	95	400	30
Apples, green or ripe					2,077	4,257		
Fruits, preserved:								
Canned		765				[2,341		469
Other		10				296		175
All other, green, ripe, or dried						124		80
Nuts						78		
Hay	52	934			45	925		
Hops							150	36

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Exports of Agricultural Products to South America, etc.—Continued.

Articles.	Argentine Republic.		Bolivia.		Brazil.		Chili.	
Miscellaneous—Continued.								
Oils:	*Quantity.*	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*
Linseed	.....	.....	.....	.....	620	358	.....	.....
Other vegetable	.....	.....	.....	.....	.....	1,614	.....	413
Rice	.....	.....	.....	.....	2,321	160	.....	.....
Seeds:								
Cotton	95,000	1,563	.....	.....	1,190	70	.....	.....
All other	.....	537	.....	.....	.....	496	.....	269
Tobacco:								
Leaf	621,407	60,881	.....	.....	43,067	5,111	1,429	317
Vegetables:								
Pease and beans	.....	.....	.....	.....	26,384	46,565	.....	.....
Potatoes	.....	.....	.....	.....	193	184	.....	.....
Vegetables, canned	.....	1,481	.....	.....	.....	788	.....	1,703
All other, including pickles	.....	98	.....	.....	.....	243	.....	57
Wine:								
In bottles	2	25	.....	.....	4	18	.....	.....
Not in bottles	96	93	.....	.....	130	129	60	41
Total value of miscellaneous products	.....	66,112	.....	.....	.....	63,894	.....	3,609
Total value animals and animal matter	.....	224,141	.....	2,100	.....	729,239	.....	136,508
Total value of bread and breadstuffs	.....	11,491	.....	.....	.....	4,103,051	.....	201,346
Total value of cotton-seed oil	.....	2,358	.....	.....	.....	7,237	.....	300
Total value of miscellaneous products	.....	66,112	.....	.....	.....	63,894	.....	3,609
Total value agricultural exports	.....	304,102	.....	2,100	.....	4,903,421	.....	341,763

Exports of agricultural products to South America for the year ending June 30, 1881.

Articles.	Peru.		United States of Columbia.		Uruguay.		Venezuela.	
Animals living:	*Quantity.*	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*
Cattle	.....	.....	42	$4,090	.....	.....	.....	$200
Hogs	.....	.....	3	90	.....	.....	.....	.....
Horses	.....	.....	2	400	.....	.....	13	4,250
Mules	.....	.....	3	800	.....	.....	57	7,500
Sheep	.....	.....	100	300	40	3,100	.....	.....
All other and fowls	.....	.....	.....	204	.....	.....	.....	17
Animal matter:								
Bones, hoofs, horns, and horn-tips, strips and waste	.....	.....	.....	.....	.....	160	.....	.....
Eggs	.....	.....	12,710	3,019	.....	.....	.....	.....
Glue	.....	.....	2,319	371	.....	.....	3,791	456
Grease, grease-scraps, and all soap-stock	.....	$1,520	.....	4,542	.....	120	.....	1,966
Hair and manufactures of	.....	.....	.....	537	.....	.....	.....	336
Hide and skins, and other than fur	.....	.....	.....	7	.....	70	.....	1,004
Honey	.....	.....	.....	12	.....	.....	.....	.....
Oils:								
Lard	8,193	5,338	24,886	15,459	.....	.....	2,078	1,279
Other	.....	.....	10	13	100	90	80	41
Provisions, comprising meat and dairy products:								
Meat products:								
Beef, canned	6,432	574	25,195	2,280	.....	.....	14,564	1,267
Beef, salted or pickled	4,200	252	486,850	27,818	.....	.....	64,078	3,575
Beef, other cured	.....	.....	1,824	139	.....	.....	.....	.....
Tallow	53,773	2,743	89,684	5,709	.....	.....	20,948	1,195
Mutton	.....	.....	60	4	.....	.....	.....	.....
Oleomargarine:								
Imitation butter	.....	.....	60,710	1,664	.....	.....	5,850	600

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Exports of agricultural products to South America, etc.—Continued.

Articles.	Peru.		United States of Columbia.		Uruguay.		Venezuela.	
	Quantity.	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*
Animal matter—Cont'd.								
Provisions—Cont'd.								
Pork products:								
Bacon	2,168	182	15,167	1,680	400	33	7,029	654
Hams	4,692	643	258,541	36,751	4,325	600	480,651	69,739
Pork, pickled	20,000	1,623	438,440	36,484	.....	.....	21,050	1,782
Lard	1,117,881	94,877	1,589,796	147,223	872,387	41,145	5,101,490	477,036
Poultry and game	.....	.....	.....	330	.....	50	.....	80
All other meat products	.....	353	.....	19,214	.....	474	.....	5,789
Dairy products:								
Butter	1,200	286	279,943	51,151	.....	.....	654,316	109,440
Cheese	.....	.....	228,229	29,593	.....	.....	16,168	2,218
Milk	.....	20	.....	31,919	.....	219	.....	607
Wax, bees	.....	.....	524	191	.....	.....	.....	.....
Total value animals and animal matter	.....	108,411	.....	426,050	.....	46,061	.....	691,083
Bread and breadstuff:								
Barley	.....	.....	60	52	.....	.....	.....	.....
Bread and biscuit	8,770	720	539,712	34,823	5,645	495	400,369	30,613
Corn	.....	.....	13,034	7,539	.....	.....	232,647	118,724
Corn-meal	.....	.....	1,049	3,727	.....	.....	187	564
Oats	.....	.....	3,600	1,473	.....	.....	2,305	923
Oat-meal	.....	.....	1,400	28	.....	.....	.....	.....
Rye flour	.....	.....	.....	.....	.....	.....	3	10
Wheat	.....	.....	.....	.....	168,259	162,941	4,848	5,205
Wheat flour	130	652	61,603	326,688	22,119	114,550	155,857	791,007
All other breadstuffs and preparations of, used as food	.....	416	.....	14,370	.....	5,263	.....	42,543
Total value of bread and breadstuffs	.....	1,788	.....	388,700	.....	283,258	.....	989,589
Cotton-seed oil	714	381	30	11	1,200	630	3,684	2,057
Miscellaneous:								
Broom-corn	.....	.....	.....	.....	.....	.....	.....	1,898
Fruits and nuts:								
Apples, dried	.....	.....	1,183	102	.....	.....	2,970	196
Apples, green or ripe	.....	.....	1,318	3,250	.....	.....	1,215	3,179
Fruits, preserved:								
Canned	.....	706	.....	9,651	.....	2,022	.....	4,844
Other	.....	115	.....	4,011	.....	.....	.....	1,691
All other green, ripe, or dried	.....	.....	.....	1,710	.....	.....	.....	3,335
Nuts	.....	.....	.....	2,199	.....	.....	.....	343
Hay	.....	.....	245	4,434	.....	.....	6	97
Hops	.....	.....	6,285	1,347	.....	.....	6,202	1,404
Oil cake and oil-cake meal	.....	.....	47,788	637	.....	.....	.....	.....
Oils:								
Linseed	120	89	12,761	8,297	.....	.....	6,995	3,907
Other vegetable	.....	473	.....	745	.....	.....	.....	8,288
Rice	.....	.....	12,322	665	.....	.....	5,737	381
Seeds:								
Clover	.....	.....	525	60	.....	.....	2,000	214
Cotton	.....	.....	.....	.....	.....	.....	200	19
All other	.....	136	.....	986	.....	.....	.....	1,121
Tobacco:								
Leaf	.....	.....	351,416	48,243	261,966	27,549	97,188	16,551
Stems and trimmings	.....	.....	.....	.....	.....	.....	2,800	250
Vegetables:								
Onions	.....	.....	11,767	10,969	.....	.....	2,655	2,917
Peas and beans	.....	.....	9,697	19,358	.....	.....	27,137	57,562
Potatoes	.....	.....	36,713	24,153	.....	.....	11,294	8,352
Vegetables canned	.....	412	.....	49,677	.....	849	.....	3,138
All other, including pickles	.....	.....	.....	1,525	.....	43	.....	878
Wines:								
In bottles	2	20	169	867	.....	.....	48	239
Not in bottles	.....	.....	5,065	2,527	.....	.....	2,632	1,571
Total value of miscellaneous products	.....	1,951	.....	168,454	.....	30,463	.....	122,465

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Exports of agricultural products to South America, etc.—Continued.

Articles.	Peru.		United States of Colombia.		Uruguay.		Venezuela.	
Miscellaneous—Cont'd.	*Quantity.*	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*
Total value of animals and animal matter	.....	108, 411	.....	426, 950	.....	46, 061	.....	691, 083
Total value of bread and bread stuffs	.....	1, 788	.....	388, 700	.....	283, 258	.....	989, 589
Total value of cotton-seed oil	.....	881	.....	11	.....	630	.....	2, 057
Total value of miscellaneous products	.....	1, 951	.....	168, 454	.....	30, 463	.....	122, 465
Total value agricultural exports	.....	112, 531	.....	984, 115	.....	360, 412	.....	1, 805, 194

Exports of agricultural products to South America for the year ending June 30, 1889.

Articles.	Ecuador.		French Guiana.		British Guiana.		Dutch Guiana.	
	Quantity.	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*
Animals, living:								
Cattle	.....	.....	.....	.....	.....	.....	.....	$100
Horses	.....	.....	.....	.....	23	$5, 300	.....	.....
Mules	.....	.....	.....	.....	123	13, 715	.....	.....
Sheep	.....	.....	.....	.....	1, 270	9, 677	75	641
All other and fowls	.....	.....	.....	$32	.....	17	.....	.....
Animal matter:								
Glue	100	$15	.....	.....	.....	.....	.....	.....
Grease, grease scraps, and all soap stock	.....	5	.....	.....	.....	27	.....	.....
Hair and manufactures of	.....	.....	.....	.....	.....	164	.....	.....
Oils:								
Lard	.....	.....	.....	.....	40, 340	26, 297	.....	.....
Provisions, comprising meat and dairy products—								
Meat products:								
Beef, canned	.....	.....	7, 820	770	4, 465	459	2, 645	230
Beef, salted or pickled	.....	.....	139, 720	6, 166	1, 795, 834	103, 407	440, 382	28, 588
Tallow	2, 256	141	.....	.....	156, 364	9, 593	.....	.....
Oleomargarine:								
Imitation butter	.....	.....	.....	.....	215, 040	25, 614	9, 500	1, 230
The oil	.....	.....	.....	.....	9, 000	970	.....	.....
Pork products:								
Bacon	.....	.....	.....	.....	98, 184	8, 754	104, 065	9, 014
Hams	21, 957	3, 230	5, 760	819	102, 261	12, 047	24, 066	2, 981
Pork, pickled	.....	.....	203, 621	15, 662	3, 258, 470	251, 203	713, 684	55, 141
Lard	2, 173, 962	200, 017	162, 614	16, 525	561, 927	52, 679	9, 695	848
Poultry and game	.....	10	.....	20	.....	905	.....	.....
All other meat products	.....	135	.....	202	.....	7, 314	.....	5, 014
Dairy products:								
Butter	22, 208	3, 785	25, 360	3, 730	58, 580	9, 601	16, 531	2, 744
Cheese	268	35	.....	.....	176, 223	22, 045	270	37
Milk	.....	25	.....	761	.....	119	.....	424
Total value animals and animal matter	.....	207, 398	.....	44, 687	.....	559, 967	.....	106, 992
Bread and breadstuffs:								
Barley	.....	.....	.....	.....	42	73	.....	.....
Bread and biscuit	11, 394	1, 000	7, 098	327	237, 357	10, 094	52, 006	1, 945
Corn	.....	.....	1, 631	982	29, 564	16, 449	195	113
Corn-meal	.....	.....	14	46	5, 649	17, 968	60	199
Oats	.....	.....	688	315	5, 109	2, 193	230	85

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Exports of agricultural products to South America, etc.—Continued.

Articles.	Ecuador.		French Guiana.		British Guiana.		Dutch Guiana.	
Bread and breadstuffs—Continued.	*Quantity.*	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*	*Quantity.*	*Value.*
Oat-meal	.....	.....	360	14	8,620	153	.....	.....
Wheat flour	13,936	63,578	5,181	25,240	119,012	540,132	11,212	55,666
All other breadstuffs and preparations of, used as food	.....	1,691	.....	1,015	.....	7,179	.....	115
Total value of bread and breadstuffs	.....	66,269	.....	27,939	.....	594,241	.....	58,123
Cotton-seed oil	.....	.....	.....	.....	671	366	.....	.....
Miscellaneous:								
Fruits and nuts—								
Apples, dried	.....	.....	.....	.....	50	5	81	5
Apples, green or ripe	.....	.....	38	71	573	1,011	2	5
Canned	.....	455	.....	50	.....	1,011	.....	57
Other	.....	19	.....	.....	.....	129	.....	40
All other, green, ripe, or dried	.....	.....	.....	4	.....	1,024	.....	99
Nuts	.....	.....	.....	604	.....	5,006	.....	.....
Hay	.....	.....	28	562	373	6,669	5	112
Hops	2,665	533	.....	.....	.....	.....	.....	.....
Oil-cake and oil-cake meal	.....	.....	.....	.....	223,880	3,265	.....	.....
Oils:								
Linseed	40	29	20	13	.....	.....	.....	.....
Other vegetable	.....	.....	.....	.....	.....	450	.....	.....
Seeds:								
All other	.....	161	.....	.....	.....	7	.....	26
Tobacco:								
Leaf	.....	.....	58,451	6,145	567,019	42,133	50,455	5,604
Vegetables:								
Onions	.....	.....	.....	.....	8	8	.....	.....
Pease and beans	12	25	1,210	2,464	6,754	9,645	53	108
Potatoes	75	36	.....	.....	3,250	2,665	.....	.....
Vegetables, canned	.....	417	.....	32	.....	518	.....	130
All other, including pickles	.....	95	.....	372	.....	2,581	.....	460
Wine:								
In bottles	6	26	.....	.....	97	441	.....	.....
Not in bottles	275	209	.....	.....	48	39	.....	.....
Total value of miscellaneous products	.....	2,005	.....	10,317	.....	76,607	.....	6,645
Total value of animals and animal matter	.....	207,398	.....	44,687	.....	559,967	.....	106,992
Total value of bread and breadstuffs	.....	66,269	.....	27,939	.....	594,241	.....	58,123
Total value of cotton seed oil	.....	.....	.....	.....	.....	336	.....	.....
Total value of miscellaneous products	.....	2,005	.....	10,317	.....	76,607	.....	6,645
Total value agricultural exports	.....	275,672	.....	82,943	.....	1,231,151	.....	171,760

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TARIFFS OF SOUTH AMERICA.

ARGENTINE REPUBLIC.

The following are the duties imposed on the articles named, according to the *Boletin del Departamento Nacional de Agricultura*, which publishes the text of the customs tariff law for 1890:

		Pesos.
Wheat	per 100 kilograms..	1.65
Wheat or maize flour	per kilogram..	.04
Maize, shelled	do....	.04
Vermicelli, etc	do....	.07
Fine biscuits or crackers, etc	do....	.09
Common wine, in casks	per liter..	.08
Fine wine, in casks	do....	.25
Wine in bottles, not exceeding 1 liter each	per bottle..	.25

Tobacco, other than cigars and fancy articles, 55 per cent. ad valorem.

Preserved fruits, meats, and vegetables in oil, vinegar, or spirits, 45 per cent. ad valorem.

The following articles are free of duty: Animals for breeding purposes, including cattle, sheep, swine, and heavy draught horses, fresh fruits, plants subject to the law of October 26, 1888, seeds for agricultural purposes, vegetable fiber for the manufacture of paper.

Articles of foreign origin, not otherwise provided for, are subject to a duty of 25 per cent. ad valorem.

The only change of importance in the duties on articles named above, as compared with those imposed in former years, is in the case of horses, all of which were formerly on the free list, whereas under the tariff for 1890, all except heavy draught animals become subject to the ad valorem duty of 25 per cent.

The value of the gold peso is 96.5 cents. Under a recent law one-half of the amount of duties is required to be paid in gold or its equivalent in paper. The other half remains payable in paper, its gold equivalent varying with the premium on gold coin, which has been as high as 380 per cent. within the present year, but since the recent change of administration has fallen much lower, having been quoted early in August at 142 per cent., and on the 21st of that month at 162 per cent. At this latter rate the value of the paper peso is about 36.8 cents, and at that rate specific duties, so far as payable in paper, are consequently little more than one-third of their nominal amount. Taking the half payable in gold and the half payable in paper together, the average rate with the gold premium at 162 may be reckoned at about 66⅔ cents to the peso.

Specific duties are levied upon the weight of the dutiable article with its inside wrapping (except in the case of tea in lead or tin, of which the net weight only is dutiable.)

BOLIVIA.

According to information furnished to the French *Journal Officiel* of May 2, 1889, by the chargé d'affaires of France at La Paz, a law had been passed by the Bolivian Congress increasing all previously-existing

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duties by 50 per cent. Under this law a surtax of 50 per cent. is therefore to be added to the duties levied in the latest preceding edition of the Bolivian tariff. The rates on the articles named are given below with and without the surtax:

Articles.	Values on which ad valorem rates are levied expressed in bolivianos and one-hundredths of same.	Rates of duty as—	
		Specified in last edition of the Bolivian tariff.	Augmented by the surtax of 50 per cent. since imposed [actual duties now levied.]
Animals for breeding purposes		Free	Free.
Hides and skins		25 p. ct. ad val	37½ p. ct. ad val.
Hops for fermenting beer	Per kilo 0.26	25 p. ct. ad val	37½ p. ct. ad val.
Oil cake		Free	Free.
Pressed hay		Free	Free.
Plants, all kinds		Free	Free.
Bran		Free	Free.
Peas, dried	Per kilo .05	25 p. ct. ad val	37½ p. ct. ad val.
Rice, all kinds	Per kilo .07	20 p. ct. ad val	30 p. ct. ad val.
Oats in grain	Per kilo .03	25 p. ct. ad val	37½ p. ct. ad val.
Meat, salt, beef or pork	Per kilo .10	10 p. ct. ad val	15 p. ct. ad val.
Barley for feeding cattle		Free	Free.
Barley, hulled, including tins, jars, or pots	Per kilo .10	25 p. ct. ad val	37½ p. ct. ad val.
Barley, pearl, including tins, jars, or pots	Per kilo .17	25 p. ct. ad val	37½ p. ct. ad val.
Prunes:			
Dried, including tins, jars, or pots	Per kilo .17	25 p. ct. ad val	37½ p. ct. ad val.
In boxes, etc	Per kilo .11	25 p. ct. ad val	37½ p. ct. ad val.
Preserves, meat, vegetables, fish, in tins, glasses, and jars	Per kilo .35	25 p. ct. ad val	37½ p. ct. ad val.
Meat, dried and salted		Free	Free.
Dates in boxes, including pkg	Per kilo .17	25 p. ct. ad val	37½ p. ct. ad val.
Preserves of fruit in sirup, dry or crystallized, including box or jars.	Per kilo .43	25 p. ct. ad val	37½ p. ct. ad val.
Extracts of meat, etc., in jars, etc., including weights of same	Per kilo .55	25 p. ct. ad val	37½ p. ct. ad val.
Beans, dried	Per kilo .05	10 p. ct. ad val	15 p. ct. ad val.
Fruits:			
Preserved in alcohol, including jar	Per kilo .26	25 p. ct. ad val	37½ p. ct. ad val.
Dried, not enumerated	Per kilo .07	25 p. ct. ad val	37½ p. ct. ad val.
Biscuits of all kinds	Per kilo .09	.02 bol. per kilo	.03 bol. per kilo.
Gray peas	Per kilo .05	10 p. ct. ad val	15 p. ct. ad val.
Cherries	Per kilo .10	25 p. ct. ad val	37½ p. ct. ad val.
Broad beans, dried	Per kilo .05	10 p. ct. ad val	15 p. ct. ad val.
Flour:			
Wheat, superior, in barrels or sacks		Free	Free.
Wheat, medium and ordinary		Free	Free.
Other kinds, such as maize, oatmeal, etc	Per kilo .10	10 p. ct. ad val	15 p. ct. ad val.
Eggs		Free	Free
Hams of all kinds	Per kilo .26	25 p. ct. ad val	37½ p. ct. ad val.
Milk, condensed		Free	Free.
Tongues:			
Dried or smoked	Per kilo .20	10 p. ct. ad val	15 p. ct. ad val.
In brine, salt, etc	Per kilo .30	25 p. ct. ad val	37½ p. ct. ad val.
Lard and beef suet	Per kilo .09	15 p. ct. ad val	22½ p. ct. ad val.
Lard, pork	Per kilo .18	15 p. ct. ad val	22½ p. ct. ad val.
Butter in kegs, etc	Per kilo .43	10 p. ct. ad val	15 p. ct. ad val.
Maize		Free	Free.
Dried fruits in slices	Per kilo .11	25 p. ct. ad val	37½ p. ct. ad val.
Potatoes:			
Dried		Free	Free.
Fresh		Free	Free.
Raisins, including box	Per kilo .10	25 p. ct. ad val	37½ p. ct. ad val.
Cheese, all kinds	Per kilo .26	.09 bol. per kilo	.135 bol. per kilo.
Sausages, all kinds	Per kilo .43	25 p. ct. ad val	37½ p. ct. ad val.
Wheat, in sacks of 62 kilos		Free	Free.
Wines, Malaga, Malmsey, Sauterne, Asti, and other full-bodied sweet or dry wines, in bottles of 690 grams	Per doz* 10.00	2 bol. per doz. bottles	3 bol. per doz. bottles.
Wines:			
In half bottles	Per doz 5.00	1 bol. per doz. bottles	1.50 bol. per doz. bots.
In casks, etc	Per liter .50	.12 bol. per liter	.18 bol. per liter.
Tobacco, in leaf, or bundles, or strips, other than Havana	Per kilo .40	.60 bol. per kilo	.90 bol. per kilo.

* Larger bottles in same proportion.

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The Bolivian monetary standard is silver and the value of the boliviano, as estimated by the Mint Bureau on January 1, 1890, was 69.8 cents, but calculated on the basis of the present value of silver bullion, it would be about 85 cents.

BRAZIL.

The rates of duty given below are those imposed by the Brazilian tariff which went into effect on July 1, 1887. These are increased in a few instances by a surtax, as indicated by an asterisk referring to a foot note which follows the table:

Articles.	Rate of duty.
	Reis.
Asses, mules, and horses, each	20,000
Oxen, each	5,000
Sheep, goats, and swine, each	1,000
Raw hides of every kind:	
Green, per kilo	80
Dried and salted, do	140
Wool, raw, carded, dyed, or prepared, do	110
Lard or hog's grease, rendered or prepared, do	200
Beef or mutton, fresh, for preserving in ice, do	70
Beef, dried, do	70
Meat of any kind, not otherwise mentioned, in brine or smoked, do	120
Hams, prepared in any way, do	450
Sausages, do	800
Extracts of meat, do	*2,000
Preserves of meat, tongues, soups, jellies, etc, do	*800
Milk, prepared in any way, do	280
Tongues, tripe, etc., of pig, etc.:	
Dried or salted, do	100
Preserved or prepared in any other way, do	*600
Butter, pure, do	580
Eggs of domestic fowl, do	160
Cheeses of all kinds, do	580
Bacon, salted or in brine, do	120
Green fruits, chestnuts, nuts, almonds, olives, of every kind, do	80
Fruits, dried, of every kind, do	160
All other fruits, nuts, etc., not otherwise mentioned, preserved in brandy, sirup, paste, or jelly, in sugar, dried, or with the juice, and crystallized, or prepared in any other manner, per kilo	*850
Rice, hulled or not, or crushed, do	25
Barley of every kind, do	30
Bran, etc, do	15
Flours, fecula, and prepared powders:	
Of wheat, do	16
Of maize, rice, potatoes, barley, oats, rye, sago, etc, do	120
Haricot beans of every kind, do	30
Common sea and lunch biscuits, do	30
Biscuits of any other kind, small, do	380
Tomatoes:	
Whole, fresh or in brine, do	80
Prepared in any other manner†,	360
Wheat in the grain,	Free.
Vegetables, flours, and cereals, not otherwise mentioned:	
Dried, per kilo	80
Preserved, do	300
Linseed, do	100
Seeds, for gardening and agricultural purposes,	Free.
Potatoes, edible, English, etc, per kilo	10
Hay, oats, straw, and other fodder, green or dried, do	15
Hops, do	130
Tobacco, in leaves, do	*520
Cotton, raw, do	240
Oil, sweet, olive, etc, per liter	300
Cotton seed, do	200
Linseed oil:	
Not purified or colored, per kilog	70
Purified or not colored, do	290
Boiled, do	130
Wines, ‡ sparkling, white or red, of any kind, do	1,300
Wines, ‡ spirituous, such as muscadel, Tokay, etc, do	360
Wines, ‡ dry, common, table, and fermented,	100

* With an addition of 6 per cent. when exchange is at 22½ to 25*d.* to the milreis, 15 per cent. when above 25 and not above 27½, and 20 per cent. when above 27½. This provision does not apply to the province of Rio Grande do Sul.

† Preserved tomatoes are subject to the additional duty specified in the preceding note.

‡ Wines (other than sparkling) in glass or faience pay a surtax of 50 per cent., including the duty on the receptacle. This last is also included in the duties on wine in casks.

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The value of the milreis is 54.6 cents, and, as the name of that coin indicates, the milreis is equal to 1,000 reis, whence it follows that reis are worth only .546 mill, or a little over half a mill each.

By a decree which appeared in the Diario Official of May 18, 1890, it was ordered that from July 1, of the current year forward there will be collected at the custom-houses and authorized treasury agencies (*mezas de rendaz*) a percentage of duties for consumption in gold money at the legal value upon each import dispatch of foreign goods.

The percentage will be 20 per cent. so long as the rate of exchange is maintained between 20 and 24, 10 per cent. between 24 and 27, ceasing so soon as it shall be at par, or previous to this, if the Government consider it proper.

When the percentage referred to shall be below the legal value of gold money, the payment may be made in paper money.

United States gold coins are received in payment of duties at the rate of 1.8302136 milreis to the dollar.

CHILI.

The following table shows the rates levied in the Chilian tariff on the articles named and the amounts of duty actually payable after adding a surtax of 50 per cent., to which all articles are subjected under a more recent law.

Articles.	Values (in pesos*) on which ad valorem duties are levied.	Rates of duty.	
		Without surtax.	With surtax. Actual duties payable.
Animals, living		Free	Free.
Rice:			
In the husk, gross weight	Per kilo 0.09	25 p. ct. ad val	37½ p. ct. ad val.
Ground	Per kilo 0.25	25 p. ct. ad val	37½ p. ct. ad val.
Dried peas, in wooden boxes, gross weight	Per kilo 0.07	25 p. ct. ad val	37½ p. ct. ad val.
Oats, gross weight		Free	Free.
Bacon or beef, salted	Per kilo 0.12	25 p. ct. ad val	37½ p. ct. ad val.
Pearl barley, in wooden boxes or tins	Per kilo 0.12	25 p. ct. ad val	37½ p. ct. ad val.
Rye		Free	Free.
Hides and skins: Ox and cow hides, dried or salted	Each 4.00	Free	Free.
Meat dried and salted, gross weight	Per kilo 0.25	25 p. ct. ad val	37½ p. ct. ad val.
Peaches, dried	Per kilo 0.20	35 p. ct. ad val	52½ p. ct. ad val.
Meat extract, gross weight	Per kilo 1.50	25 p. ct. ad val	37½ p. ct. ad val.
Haricot beans	Per kilo 0.04	25 p. ct. ad val	37½ p. ct. ad val.
Fruits:			
In water, brandy, or sirup, gross weight	Per kilo 0.30	35 p. ct. ad val	52½ p. ct. ad val.
Fresh		Free	Free
Animal fat:			
Common, in tins, gross weight	Per kilo 0.25	25 p. ct. ad val	37½ p. ct. ad val.
In wooden boxes, gross weight	Per kilo 0.18	25 p. ct. ad val	37½ p. ct. ad val.
Cherries, dried, in wooden boxes, gross weight	Per kilo 0.15	35 p. ct. ad val	52½ p. ct. ad val.
Wheat flour		Free	Free.
Flour of oats, rye, and maize, in tins or packets, including case	Per kilo 0.20	25 p. ct. ad val	37½ p. ct. ad val.
Ox-tongues, dried or salted	Per kilo 0.30	25 p. ct. ad val	37½ p. ct. ad val.
Preserved milk in tins	Per kilo 0.40	25 p. ct. ad val	37½ p. ct. ad val.
Hops, including metal and wooden boxes	Per kilo 0.50	25 p. ct. ad val	37½ p. ct. ad val.
Maize		Free	Free.
Butter in tins, including the coverings	Per kilo 0.45	35 p. ct. ad val	52½ p. ct. ad val.

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Article.	Values (in pesos*) on which ad valorem duties are levied.	Rates of duty.	
		Without surtax.	With surtax. Actual duties payable.
Pork fat, in tins, including the coverings	Per kilo 9.30	35 p. ct. ad val	52½ p. ct. ad val.
Pork fat in barrels, gross weight	Per kilo 0.22	35 p. ct. ad val	52½ p. ct. ad val.
Cheeses of every kind, gross weight	Per kilo 0.49	35 p. ct. ad val	52½ p. ct. ad val.
Sausages, loose or in tins, gross weight	Per kilo 0.60	35 p. ct. ad val	52½ p. ct. ad val.
Bacon, salted or in tins	Per kilo 0.20	35 p. ct. ad val	52½ p. ct. ad val.
Red wine:			
In common bottles	Per doz 10.00	Per doz., 2.25 pesos	Per doz., 3.37½ pesos.
In larger receptacles	Per liter..... 0.50	Per liter, .25 pesos..	Per liter. 0.37½ pesos.
White wine:			
In common bottles	Per doz..... 10.00	Per doz., 3.00 pesos	Per doz., 4.50 pesos.
In larger receptacles	Per liter..... 0.80	Per liter, .32 pesos..	Per liter, 0.48 pesos.

*The value of the Chilian peso is 91.2 cents.

COLOMBIA.

Under the Colombian tariff which went into effect on November 8, 1886, the duties specified in column A below were imposed on the articles named, but they have since been subjected to some modifications. Thus, by a decree dated January 31, 1888, the import duties in force were lowered 20 per cent. for all goods entering at the port of Buenaventura, and 30 per cent. for all goods entering at the port of Tumaca.

By a decree published in the Official Gazette of April 22, 1888, it was decided, subject to the approval of Congress, to increase the import duties by 25 per cent., and the rates so increased are given in column B:

Articles.	Rates of duty (in pesos).	
	A. Imposed by the tariff which went into effect November 8, 1886.	B. As augmented by the surtax of 25 per cent. imposed under decree of April, 1888.
Potatoes, onions, corn, rice, peas, beans, and all kinds of vegetables and fresh fruits	Per kilo., 0.01	Per kilo., 0.01¼
Flour, including sago, arrowroot, tapioca, corn-meal, and all similar products	Per kilo., 0.05	Per kilo., 0.06¼
Prepared food, such as hams, sweetmeats, confectionery, preserved and dried fruits, etc., and all pickles and condiments not specially distinguished	Per kilo., 0.20	Per kilo., 0.25
Olives in barrels	Per kilo., 0.10	Per kilo., 0.12½
Olive-oil	Per kilo., 0.10	Per kilo., 0.12½
White wines, sweet and dry, in pipes and barrels	Per kilo., 0.05	Per kilo., 0.06¼
All other wines	Per kilo., 0.40	Per kilo., 0.50
Tallow, raw	Per kilo., 0.01	Per kilo., 0.01¼
Live animals	Free.	Free.
Tobacco, in the leaf and cut for cigarettes	Per kilo., 0.10	Per kilo., 0.12½
Hay	Per kilo., 0.01	Per kilo., 0.01¼

According to the *Deutsches Handels-Archio* for February 2, 1889, a decree had been just issued imposing, among others, the following duties:

	Peso.
Hops.....per kilo..	0.05
Red wine.....per kilo..	0.05

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Under a decree issued by the governor of the department of Panama last winter all salt meats imported for consumption within that department are subject to a departmental duty of 0.05 peso per kilogram on the gross weight of each package. Such meats are imported chiefly from the United States.

The value of the Colombian peso, as estimated on the 1st of January, 1890, by the Director of the United States Mint, was 69.8 cents, but at the present price of silver bullion its value is about 85 cents.

ECUADOR.

The following statement shows the duties now imposed on the articles named under the regular tariff of Ecuador, and the same as augmented by an additional municipal tax of 20 per cent. to which imported goods are also subject. All duties are levied on the gross weight.

Articles.	Rates of duty (in sucres) as—	
	Imposed by the tariff.	Increased by adding the municipal tax of 20 per cent.
Wheat	Per kilo., 0.02	Per kilo., 0.02⅖
Barley	Per kilo., 0.02	Per kilo., 0.02⅖
Maize	Per kilo., 0.02	Per kilo., 0.02⅖
Flour of wheat, maize, etc	Per kilo., 0.05	Per kilo., 0.06
Rice	Per kilo., 0.01	Per kilo., 0.01⅕
Grain:		
For feeding cattle	Per kilo., 0.01	Per kilo., 0.01⅕
Unprepared	Per kilo., 0.01	Per kilo., 0.01⅕
Bran	Per kilo., 0.01	Per kilo., 0.01⅕
Straw, dried, and hay, for fodder	Per kilo., 0.01	Per kilo., 0.01⅕
Sweet-potatoes	Per kilo., 0.01	Per kilo., 0.01⅕
Fresh vegetables	Per kilo., 0.01	Per kilo., 0 01⅕
Fruits, dried, and other comestibles, not prepared	Per kilo., 0.05	Per kilo., 0.06
Raisins	Per kilo., 0.05	Per kilo., 0.06
Nuts	Per kilo., 0.05	Per kilo., 0.06
Almonds	Per kilo., 0.05	Per kilo., 0.06
Olives	Per kilo., 0.10	Per kilo., 0.12
Oils, linseed, olive, castor and almond	Per kilo., 0.10	Per kilo., 0.12
Wines, in any receptacle	Per kilo., 0.10	Per kilo., 0.12
Hops	Per kilo., 0 02	Per kilo., 0.02⅖
Butter	Per kilo., 0.10	Per kilo., 0.12
Lard	Per kilo., 0.10	Per kilo., 0.12
Hams	Per kilo., 0.05	Per kilo., 0.06
Salt meats	Per kilo., 0.05	Per kilo., 0.06
Tallow	Per kilo., 0.05	Per kilo., 0.06
Hides, fresh and salted	Per kilo., 0.01	Per kilo., 0.01⅕
Tobacco, in the leaf or manufactured	Per kilo., 0.50	Per kilo., 0.60
Cotton, raw, with or without seed	Per kilo., 0.05	Per kilo., 0.06
Linseed	Per kilo., 0.05	Per kilo., 0.06
Seeds for planting	Free.	Free.
Fresh fruit	Free.	Free.
Live animals	Free.	Free.
Live plants	Free.	Free.

On the first of January, 1890, the value of sucre was estimated by the Director of the United States Mint at 69.8 cents, but at the present price of silver bullion it is worth about 85 cents.

GUIANA, BRITISH.

The only information at hand relative to the tariff on imports into this colony is found in the British Board of Trade Journal for August, 1888, wherein are stated the provisions of an act passed by the Colo-

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nial Assembly on May 24, 1888. In this act certain changes were made in the tariff then in force. These changes were to go into effect on the 24th of May, 1888, and continue in force until July 1, 1889.

Under this law the duties on wines not exceeding $2 per gallon in value were fixed as follows:

If in wood and containing less than 26 per cent. of proof spirit	per gallon..	$0.50
If bottled	per dozen quarts..	1.00
If bottled	per dozen pints..	.50
Ghee, oleomargarine, and butterine substances	per pound..	.02

The following articles were taken off the free list and charged with the duties indicated below:

Beef, pickled, dried, or smoked	per barrel of 200 pounds..	$1.50
Pork, pickled	do....	1.50
Lard	per pound..	.01
Bulls, cows, heifers, steers, and oxen	per head..	10.00

GUIANA, FRENCH.

By a decree of the President of the French Republic, dated January 7, 1890, important modifications were made in the customs tariff of French Guiana.

Art. 1 provides that foreign merchandise imported into French Guiana shall be liable to a customs duty of 4 per cent. ad valorem, besides the duty of 3 per cent. imposed in execution of the decree of the 24th of December, 1864.

The value will be determined according to the official rates, or according to the prices appearing on the invoices, increased by 25 per cent.

Art. 2 exempts a number of articles from the new ad valorem duty of 4 per cent. Among the articles so exempted are cattle, asses, and mules, tobacco in leaves, mess beef, and family beef.

PERU.

The following are the rates of duty imposed on the articles named under the tariff which went into effect on January 1, 1887: *

Articles.	Valuation on which the ad valorem rates are assessed.	Rates of duty, ad valorem and specific.
Animals	Sight value	10 per cent. ad valorem.
Wheat	Specific duty	0.01 sol per kilogram.
Barley		10 to 40 per cent. ad valorem.
Flour	Specific duty	0.035 sol per kilogram.
Rice, hulled		25 per cent. ad valorem.
Seeds	0.15 sol per kilogram	10 per cent. ad valorem.
Meat, canned	0.50 sol per kilogram	40 per cent. ad valorem.
Lard	0.20 sol per kilogram	25 per cent. ad valorem.
Wines of all kinds		65 per cent. ad valorem.
Tobacco in leaf or prepared for cigarettes, from countries not in Central or South America		0.50 sol per kilogram.

The value of the *sol* on January 1, 1890, was officially estimated at 69.8 cents in our money, but at the present price of silver bullion is worth about 85 cents.

* See "Reports from the Consuls of the United States," No. 74, p. 523.

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URUGUAY.

The following are the duties levied on the articles named under the tariff which went into effect on January 20, 1888, as amended by a law enacted in 1889.

Wheat is charged with specific duties varying with its market price, according to the following scale:

[Per 100 kilograms.]

Prices.	Corresponding duties.	Prices.	Corresponding duties.
	Pesos.		*Pesos.*
0.00 to 4.00 pesos	1.25	6.01 to 7.00 pesos	0.25
4.01 to 5.00 pesos	1.00	7.01 to 8.00 pesos	0.15
5.01 to 6.00 pesos	0.75	Over 8.00 pesos	Free.

Maize is charged with specific duties varying with its market price, according to the following scale:

[Per 100 kilograms.]

Prices.	Corresponding duties.	Prices.	Corresponding duties.
	Pesos.		*Pesos.*
0.00 to 2.00 pesos	0.75	3.01 to 4.00 pesos	0.40
2.01 to 3.00 pesos	0.60	4.01 to 5.00 pesos	0.20

Wheat flour is charged with ad valorem duties varying with the price of wheat according to the following scale:

Prices of wheat per 100 kilograms.	Corresponding ad valorem duties on flour.	Prices of wheat per 100 kilograms.	Corresponding ad valorem duties on flour.
	Per cent.		*Per cent.*
2.40 to 3.20 pesos	32½	5.61 to 6.40 pesos	15½
3.21 to 4.00 pesos	27½	6.41 to 7.20 pesos	12½
4.01 to 4.80 pesos	22½	7.21 to 8.00 pesos	10½
4.81 to 5.60 pesos	17½	8.01 pesos and above	7½

		Pesos.
Dried vegetables, such as beans, haricots, gray peas, lentils, and other similar products, gross weight	per kilogram	0.05
Rice: Hulled, gross weight	do	0.04
Common	do	0.01
Biscuits, sea, common and paste, including case	do	0.16
Raisins	do	0.05
Cheeses, including case	do	0.25
Butter (milk), including case	do	0.35
Lard, including case	do	0.14
Sausage, including case	do	0.40

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		Pesos.
Hams, including case	do	0.24
Olive oil in bottles, up to one-half liter per bottle	per liter	0.08
Ordinary wine in barrels of whatever origin	do	0.06
Wines; Superior, in casks	do	0 23
Of any other * description, in bottles or flasks	do	0.23
Tobacco, Virginia leaf, etc	per kilogram	0.18

Fresh fruits, 20 per cent.; potatoes, 12 per cent. ad valorem.

The following articles are free of duty: Live plants, with the exception of vine stocks and shoots, live animals, hops, hemp (raw), clover-seed.

All articles of foreign origin, not otherwise provided for in the tariff, pay a duty of 31 per cent. ad valorem.

The legal monetary unit of Uruguay is a gold piece weighing 1.697 gram, having a fineness of .917, its contents of pure gold expressed in troy weight being nearly 24.0145 grains as compared with 23.22 grains in the United States gold dollar. This makes it worth a little more than $1.034 in our money.

VENEZUELA.

According to a statement made by Consul Bird, of La Guaira, in a report to the State Department made under date of April 9, 1889, and published in consular report No. 107, p. 516, a tax of 12½ per cent. of the amount of import duties paid under the Venezuelan tariff "is levied for internal revenue" in addition to the import duty proper. The duties without this surtax are given in column A below and the total impost, including the surtax, in column B. The duties are all levied on the gross weight. The Venezuelan unit of value, the bolivar, was estimated by the director of the mint on January 1, 1890, to be worth 14 cents of our money, but at the present price of silver bullion is worth about 17 cents:

Articles.	A. Import duties proper (in bolivars).	B. Total impost, including surtax of 12½ per cent. (in bolivars).
Live animals (except leeches)	Free	Free.
Eggs	Free	Free.
Wheat	Per kilo., 0.10	Per kilo., 0.11¼
Rye	Per kilo., 0.10	Per kilo., 0.11¼
Barley, in the grain	Per kilo., 0.10	Per kilo., 0.11¼
Oats	Per kilo., 0.10	Per kilo., 0.11¼
Maize	Per kilo., 0.10	Per kilo., 0.11¼
Rice, in the husk	Per kilo., 0.10	Per kilo., 0.11¼
Barley meal and all meal not otherwise mentioned	Per kilo., 0.10	Per kilo., 0.11¼
Bran	Per kilo., 0.10	Per kilo., 0.11¼
Hay	Per kilo., 0.10	Per kilo., 0.11¼
Apples, grapes, pears, and any other fresh fruits	Per kilo., 0.10	Per kilo., 0.11¼
Pressed grapes	Per kilo., 0.10	Per kilo., 0.11¼
Wheat flour	Per kilo., 0.25	Per kilo., 0.28¼
Beans, pease, lentils, haricots, kidney beans, potatoes, and all vegetables and garden produce	Per kilo., 0.25	Per kilo., 0.28¼

* This apparently means "other" than some kind in bottles or flasks not here specified, but provided for in the tariff at a different rate of duty.

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Articles.	A. Import duties proper (in bolivars).	B. Total impost, including surtax of 12½ per cent, (in bolivars).
Malt	Per kilo., 0.25	Per kilo., 0.28⅛
Beef, jerked salted, in brine, or smoked, smoked or salted bacon or tongues, not otherwise mentioned	Per kilo., 0.25	Per kilo., 0.28⅛
Hams and bacon not imported in tins	Per kilo., 0.25	Per kilo., 0.28⅛
Lard and butter	Per kilo., 0.25	Per kilo., 0.28⅛
Oil, table or salad	Per kilo., 0.25	Per kilo., 0.28⅛
Wines of every kind in pipes and barrels	Per kilo., 0.25	Per kilo., 0.28⅛
Wines imported in demijohns and bottles, excepting Spanish and Bordeaux red wines	Per kilo., 0.75	Per kilo., 0.84⅜
Olives and capers	Per kilo., 0.75	Per kilo., 0.84⅜
Barley, bruised or ground	Per kilo., 0.75	Per kilo., 0.84⅜
Hops	Per kilo., 0.75	Per kilo., 0.84⅜
Potato, maize, and rye flour	Per kilo., 0.75	Per kilo., 0.84⅜
Sausages, jams in tins, preserved foods, etc	Per kilo., 0.75	Per kilo., 0.84⅜
Suet, raw, undressed, or pressed, etc	Per kilo., 0.75	Per kilo., 0.84⅜
Cheeses	Per kilo., 0.75	Per kilo., 0.84⅜
Condensed milk	Per kilo., 0.75	Per kilo., 0.84⅜
Fruit in brandy or sirup and dried fruits	Per kilo., 0.75	Per kilo., 0.84⅜
Raw wool	Per kilo., 0.75	Per kilo., 0.84⅜
Hides, not tanned or prepared	Per kilo., 0.75	Per kilo., 0.84⅜
Oil, almond or linseed	Per kilo., 0.75	Per kilo., 0.84⅜
Tobacco in the leaf	Per kilo., 5.00	Per kilo., 5.62½

A STATISTICAL VIEW OF VENEZUELA.

The Republic of Venezuela includes the northeastern portion of South America and a few adjacent islands, between latitudes 1° 8′ and 12° 16′ north, and longitudes 53° 15′ and 73° 17′ west from Greenwich, and has an area stated in her latest statistical publication at 591,000 square miles; in The Statesman's Year-Book at 632,695; in the American Almanac at 439,119, and in the report of the International American Conference relative to an international railway line, at 394,374 square miles. Adopting the Venezuelan authority, 282,000 square miles of the area are contained in the federal district and eight states, the remainder being divided into eight territories. The boundaries are made by the Caribbean Sea and the Atlantic on the north, British Guiana on the east, Brazil and territories claimed by Ecuador, Colombia, and Peru on the south, and by Colombia on the west. It is larger in extent than Arkansas, California, Georgia, New York, and Texas combined. In 1889 the population was estimated to be 2,234,385, of which 326,000 were Indians, 86,000 uncivilized. In this population the female excess was 64,200, and there were 35,000 foreigners consisting of Spaniards, Colombians, English, Italians, Dutch, French, and Germans, proportioned in the order named, with scarcely a representative of the United States. All except 98,385 of the population dwelt in the States and federal district, making for their area nearly 7.6 inhabitants to the square mile, or one-half of 1 per cent. more to the square mile than the State of New York had in 1790.

It ought to be noted perhaps that the British authority known as The Statesman's Year-Book, for 1885, gives the area of British Guiana, bounding Venezuela on the east, as 76,000, and that the same annual for 1886 gives the area as 109,000 square miles; an increase during a year of 33,000 square miles to European possessions in America, and an

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equal loss to the Republic of Venezuela, so far unaccounted for by treaty or recognized conquest, and claimed by the latter country to be against her hitherto unbroken and undisputed right of possession acknowledged in the treaty of Munster, 1648, the definitive treaty of Aranjuez, 1791, and the treaty of London, 1814, which conferred what is now British Guiana upon Great Britain with the Essequibo as its permanent western boundary.

DISCOVERY BY COLUMBUS.

Venezuela was the first portion of the main land of the new world discovered by Columbus, near the mouths of the Orinoco, and during his second voyage. Alonzo de Ojeda, who accompanied him upon his first two adventures, made an independent voyage in 1502, using copies of Columbus's maps, and coasting farther west, discovered and entered Lake Maracaibo. Americo Vespucio accompanied Ojeda on this voyage, and being an Italian, the Indian villages, which the discoverers found built upon piles in the lake, suggested the name of Little Venice for the region—in Italian, Venecia, and in Spanish, Venezuela, which was ultimately extended to the entire captain-generalcy and retained by the Republic.

FIRST CITY BUILT BY EUROPEANS.

In 1527 Spaniards, under the lead of Juan Ampuis and inspiration of Bartolomé de Las Casas, took possession of the coast at what is now Coro, in Venezuela, then called by its Indian name of Coquibacoa, erected a cross, which is still preserved, and founded finally the city which was for fifty years the capital of the country, and is still a state capital. This is probably the oldest city built by Europeans on the main land of the New World, and with its brass-bound cross, preserved under a canopy of masonry in the public square, and the remains of its church and Carmelite monastery built in 1540, is historically interesting. But as a capital or other rich city situated upon a narrow, low peninsula, or otherwise easily accessible from the sea, was not in early American historic times secure from the Morgans, Drakes, Knowleses, and independent gentlemen of enterprise who profitably amused themselves upon southern seas and along their shores, the Venezuelan capital was changed to Caracas, which lies 9 miles inland, in a straight line, behind coast mountains over 8,000 feet high, and was for over two centuries inaccessible to artillery or a carriage from any near point upon the sea.

INDEPENDENCE OF SPAIN.

Venezuela, with Colombia, Peru, Bolivia, and Ecuador, was liberated from the rule of Spain by Simon Bolivar and his compatriots in a war during years of which no prisoners were spared, according to a practice

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initiated by the royalists, a declaration of independence having been adopted by a congress of delegates of the captain-generalcies named on the 5th day of July, 1811, at Caracas, and a union formed for the struggle against Spain. The war practically ended in Venezuela with her decisive victory at Carabobo on the 25th of June, 1821, but was continued longer in Colombia, Peru, and Bolivia, to each of which Bolivar lent his efficient aid. In 1830 Venezuela withdrew from the successful coalition and has since remained independent. The 5th of July is annually celebrated in her principal cities by her officials, municipal bodies, and patriotic citizens, in assemblages before which addresses are made, and by processions to the churches and religious services therein. In these services the names of Bolivar "the Liberator" and Washington receive united honors.

CHARACTER AND FORM OF GOVERNMENT.

The form of government was originally modeled upon that of the United States, and is still similar thereto in leading points. The legislative power is vested in the senate and house of deputies, which consist, respectively, of three senators from each state, and one deputy for each 35,000 inhabitants or fraction exceeding 15,000, forming a congress of twenty-four senators and fifty-two deputies, all of whom are elected for four years.

The congress elects from its body one senator and one deputy from each state, and one delegate from the federal district, who compose for two years a federal council, and this council elects from its own number the President of the Republic, who, like its members, is ineligible to a continuous re-election. The President exercises his powers with the concurring vote of the council, and can suspend the operation of a law, but not veto one without the approval of the states. Thus, with the approval of the council, the executive may exercise in various ways extraordinary powers, even to the extent of organizing an army in time of peace, suspending guaranties, removing all public officers, or expelling individuals. Under such conditions the constitutional provisions for popular but open suffrage, free speech, a free press, security of person and property, etc., seem sometimes to fail in efficacy, though less frequently of late than in former years. The judicial officers are elected by congress for terms of eight years.

NATURAL CHARACTER AND PRODUCTIONS.

The country is naturally divided into three zones, characterized by their principal productions. The first, embracing about 134,000 square miles, equal to Nebraska and Georgia in extent, is mainly agricultural, and contains the plantations producing coffee, cacao, sugar-cane, cotton, cereals, and fruits, and also sustaining many cattle. The second, of about 153,600 square miles, nearly the extent of California, is the interior

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grazing region and sustains large herds of cattle, horses, and mules. It consists of high table-lands and extensive plains which are partly inundated during the rainy season, and is generally rich in pasturage and in portions suited to agriculture. The third is the great forest region, principally from the Orinoco to the Brazilian boundary, and contains an abundance of the most valuable timber, natural plantations producing rubber gum, copaiba, vanilla, tonka beans, considerable cinchona and abundance of dye woods, barks and legumes for tanning, and an immense variety of orchidaceous plants. This zone is also rich in gold and other minerals, and contains the now famous Yuriari mining region, and other equally rich mines far up affluents of the Orinoco, which though located are undeveloped because of want of labor and cost of machinery upon the ground.

Although so near the equator, the country has a great variety of climate, on account of its mountain elevations, consisting in the Andean, Coast, and Parima ranges, and the modifications caused by its extensive woodlands, even in the cultivated regions, and its abundant watercourses, numbering over 1,000 rivers, with the Lake of Valencia, covering 66 square miles, and Lake Maracaibo 6,000. There are but two closely marked seasons of the year, viz, the dry, which begins in October and ends with March, with little rain, north or northeast winds, and agreeable temperature, and the rainy, which begins in April and ends in October, with abundant rains, east to southeast winds, and higher temperature. Temperature is modified by elevation to an extent indicated generally by the first following statement, and as to specified places and elevations in the second; and in the latter, for convenience of information, the population of the places is added.

Temperature at given elevations.

	° Fahr.
From sea-level to 1,900 feet	77 to 86.
From 1,900 to 6,500 feet	60 to 77.
From 6,500 to 9,000 feet	36 to 60.

At 15,000 feet, perpetual snow.

Temperature, elevation, etc., of given places.

Cities.	Average temperature.	Height above sea.	Population.
	° *Fahr.*		
Caracas	71.20	3,025	71,000
Carupano	80.60	26	11,000
Ciudad Bolivar	82.81	187	11,000
Barcelona	81.41	43	12,000
Barquesimeto	77.90	1,711	29,000
La Guayra	80.60	26	15,000
La Victoria	73.90	1,496	7,000
Maracaibo	80.60	30	34,000
Maturin	81.50	23	12,000
Merida	61.05	5,308	11,000
Montalban	72.05	236	7,114
Nirgua	71.00	2,503	2,000
Puerto Cabello	80.06	6½	17,000
Rio Caribe	84.20	16	6,000
Valencia	78.80	1,824	38,000

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CLIMATE AND HEALTH.

Venezuela is in general a healthy country, precaution suggested by experience, there as elsewhere, being fairly observed. Although the heat is very strong under the midday sun, sun-stroke is rare; but exposure may facilitate or induce fever. The prevalent custom is to rest, usually to sleep each day for a time between eleven and one o'clock, to retire and arise early, and to do all things moderately. Bathing is frequent, clothing light and fitting loosely, and exposure to rain and dew, or to the full moon, is avoided. Strong drinks, when used at all, are sparingly and slowly taken, much diluted, in the evening at home, with callers or socially at the club, and pure wines are used at the principal meals by the better class. Drunkenness and its logical train of miseries are rare. Early breakfast, at 7, consists of usually one cup of strong, clear, excellent coffee, or of chocolate, and dry bread, with perhaps butter or a little cheese; the full breakfast at 11 is a hearty meal, with fruits and meat or fish, and with many is the principal one of the day, while dinner, at 5 or 6, is not much different, except that fruits are not served; Spanish-Americans observing the saying well that in the morning fruit is gold, in the evening silver, and at night lead. If the usual bed time is delayed, a little cake and wine or cordial, with coffee or tea, are served, especially with company present. Everything is done with regularity, without hurry, and, affecting home life, with cheerful sociability. Regular climate conditions which, though somewhat oppressive, are thus regularly recognized in manner of living are favorable to a minimum of disease, and it is not singular that the ordinary death-rate in tropical Venezuela is comparatively small, being from 2 to 4 per cent. in such States as Zulia and Guzman Blanco, which include the most populous cities, while the average for the United States by the last completed census was nearly 2 per cent. The census of 1881 in Venezuela disclosed one person in 10,486 as from 100 to 125 years old, while the proportion with us in the census of 1880 was one in 12,489.

REVENUE AND EXPENDITURE.

The principal source of revenue to the Government is that of customs duties, which yield from four and a half to over five million dollars per year, being in 1888, last reported, $5,945,763, to which the transit tax added the next largest item of $1,386,310. The total revenue for the year was $8,144,906, and expenditure $8,650,990, leaving a deficit. Of the expenditure $1,867,666 was for public works, $857,502 for interest on the public debt, $811,530 for the Army, and $667,767 for public instruction. The revenue of the several states and the federal district for the same year was $1,601,885, and the expenditure $1,459,423, a considerable increase in both items over those of the preceding year.

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NATIONAL DEBT.

In 1880 the public debt, created principally of loans from Europe, and particularly from England, amounted to over $54,000,000, upon which there was failure to pay interest. Since that time, by compromises and refunding, the debt has been reduced so that in 1889 it only amounted to $22,517,427, upon which interest at 4 per cent. was regularly paid. Considerable public improvements show the use which has been made of much of this money, while some has been consumed in revolutionary movements. Happily, through the increasing stability of public affairs, consequent prosperity, and favorable re-adjustment of the debt, it has lost its place as a matter of principal importance.

PUBLIC SCHOOLS.

In 1870 education was made free and compulsory, and for many years schools have increased at the rate of over a hundred per year, and attendants at the rate of over six thousand, until the former now number two thousand, for primary instruction, and the latter over a hundred thousand. There are four normal schools and a school of art and trades. There are besides, for higher education, 2 universities, 20 federal colleges, 9 colleges for girls, 1 polytechnic school, schools for fine arts and for music, and 28 private colleges and a nautical school. There are 2,300 primary-school teachers and 594 professors in the various high schools and colleges. There are still only schools enough for about half the children between the ages of five and fifteen years. The average annual cost of the schools per scholar is $8.

SINGULAR SOCIAL FACTS.

The law only recognizes civil marriage as legal, while the Roman Catholic Church, to which most of the people adhere, acknowledges only a religious marriage as legal. One result of this variance of views is that those who marry usually employ both the civil and the ecclesiastical authorities, and at considerable expense, especially for the church ceremony. Another is that nearly half of those who wish to enter into family relations, being too poor to pay for the two ways which make undoubted legality, do so simply by agreement; and consequently the record of births in the federal district for three recent years is distinctly as follows: Births: Legitimate, 3,753; illegitimate, 3,848. If he chooses to do so, a father can so acknowledge his children born out of wedlock, in any case, that they may inherit equally with legitimate descendants. It speaks well for the people who enter into such relations, that they are fully as faithful to each other and to their children as are those who begin with the approval of law and religion.

MEANS OF COMMUNICATION.

Excepting the Orinoco and Lake Maracaibo the water-courses are as yet little used, as those navigable for vessels are mostly away from cen-

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ters of population. There are comparatively few carriage-roads, and many mule-paths. Previous to 1882 there was but one railroad, built for the convenience of a private enterprise in copper mining. Since that date much progress has been made in railway building, so that now the communications completed and under way are as follows:

Miles operated.—From La Guaira to Caracas, 23.75; Tucacas to Aroa, 56.25; La Ceiba to Sabana Mendoza, 25.31; Caracas to El Valle, 3.43; Maiquetia to Macuto, 4.38; Carenero to Rio Chico, 20; Caracas to Petare, 6.25; Caracas to Antimano, 5.63; Puerto Cabello to Valencia, 34. Total length, 179.

Lines of railway in construction.—From Petare to Santa Lucia, 28 miles; Santa Cruz to La Fria, 56.25; Orinoco to Yuriari, 143; Barcelona to the Coal Mines, 12; total length, 239.25 miles.

Lines of railway contracted for.—From Puerto Cabello to the Apure River, 125 miles; La Luz to Barquisimeto, 50; Rio Escalente to Merida, 106; total length, 281 miles.

It thus appears that the total length of railways provided for, so far, in Venezuela is 699¼ miles, a considerable undertaking considering the sparseness of population and the difficulty of construction over some portions of the lines, as from La Guaira to Caracas, where the line extends nearly 24 miles between two points but 9 miles apart in a straight line. Several of the short lines, separately constructed, are connecting roads, as those from Macuto to Maiquetia, La Guaira to Caracas, and thence to El Valle, to Petare, and to Antimano. In fact, the constructed and projected roads will nearly or quite form two separate systems, portions of which would enter into an intercontinental chain and thus be of increased usefulness and decreased cost of operation. There is perhaps no country of its size in South America which would receive greater benefit than Venezuela from such an extended system, and none which would return more in proportion for such a benefit.

Foreign communication with the principal sea-ports is almost daily, and there were over 7,500 entries of vessels in 1888. Venezuela's marine numbers over 2,500 vessels, of 25,317 tons burden, 26 of which are steamers of 2,523 tons, for sea and river navigation.

Generally speaking, the means of communication between haciendas and villages are by riding horses, mules, and donkeys, traversing the country by primitive paths; and from villages to cities by mule, ox-cart, and donkey trains over roads in some cases rude and in others well constructed and maintained; winding along the bend of fertile valleys and the sides of wooded mountains; now amid charming scenes of cultivation, and now in the open shade of coffee plantations, or the semi-obscurity of natural forests festooned with vines and florid with abundant varieties of orchids, edged with other varieties growing from the soil, among which may be found several kinds of the begonia growing to a height of 6 feet. The largest amount of freighting is upon the backs of donkeys, and such must continue to be the case be-

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tween the mountain dwellings and the villages and many of the cities, whatever advancement may be made in other respects. As to the postal service, except where railroad lines are now in operation, the mails from the sea-board to the remote interior are still carried by Indian runners, who, each with a package of about 15 pounds weight or less, with light and scanty clothing to put on near the villages, hidden for the purpose, but naked through the woods, swiftly pursue the shortest and most secluded paths inaccessible to common travel, with unsurpassed fidelity to trust, unfailing regularity, and endurance such as would make the fortune of a professional walker. The express messenger is in an unusual sense a common carrier, being usually an ordinary habitual donkey driver.

POSTAL AND TELEGRAPH STATISTICS.

There are 162 post-offices in the country, being 44 more than there were in the United States a hundred years ago, when its population was greater than Venezuela's now is. The packages by post delivered in 1886 numbered 2,911,400. The rate on letters runs from 5 cents to $1, and on printed matter and samples of goods it is 1 cent per 30 grams. Payment must be made by affixed stamps. In most places mail is delivered at least daily. The cost of the postal service, including that of the postal union, is $116,774 per year. There are 2,612 miles of telegraph line belonging to the Government, with 80 offices, 128 officers, 109 guards, and 86 persons employed in delivery. Rates, in usual hours, up to 10 words, exclusive of signature or address, 20 cents; excess up to 5 words, 5 cents; on holidays, from 6 p. m., and in foreign languages, double rates; from 10 p. m. to 7 a. m., quadruple rates; in cypher, triple rates. Messages sent in 1886, official, 68,066; private, 174,320; total, 242,386. Receipts for the year, $47,810.

PRINCIPAL PRODUCTIONS.

Coffee stands first among the productions of Venezuela which have a recognized commercial importance, and with the advance in prices maintained for some years past plantations have been greatly extended. The excellence of the Venezuelan coffee, and that grown in the eastern part of Colombia adjacent which is marketed in Maracaibo and passes as a product of the former country, is well known, and strengthens the demand. In fact, as no cargo of Java coffee is recorded as having been imported into the United States during the last twenty years, nor any of Mocha for a much longer period, and as coffees formerly sold at retail under the names of "Maracaibo" and "La Guayra" have in name disappeared from the stores, there is an inference warranted that the coffees still abundantly served to families under the names of "Mocha" and "Old Government Java" are identical with those shipped from the Venezuelan ports of La Guaira, Puerto Cabello (this coffee is all labeled La Guaira), Maracaibo, and in less quantity from Ciudad Bolivar. The

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total value of the coffee exported in 1888, including that from Colombia which passed through Maracaibo, was $12,083,480. The possible importance of Venezuela in the future development of coffee production may be approximately estimated from the fact that in some States the proportion of land planted to coffee to that which is well fitted for such use but now idle, is only as 1 to 250, which is as much as to say that the value of the production of 1888 at the prices of that year may be increased in future enormously, the figures reaching billions annually. The average value of the coffee at the point of export which was shipped to the United States from Venezuela in 1888 was about 14½ cents per pound.

Mineral productions rank second in importance, but less in export value apparently since 1885, as the gold of the Yuriari region passes out more through the British ports. The export through Ciudad Bolivar from those mines, from 1866 to 1886, was $33,921,955. Since the latter date the value is difficult to ascertain. The rich copper mines of Aroa, worked by an English company, furnished from 1880 to 1888 249 cargoes of minerals and pure metals, valued at $4,712,600. The value of all mineral exports in 1887, was $5,712,100. What the value of the annual production is, exported and unexported, is not easy to ascertain. It is, however, far less than it will be in many future years, as the country is rich in gold, silver, copper, and iron, and possibly so in sulphur, coal, coal-oil, asphalt, lead, kaolin, etc. The salt mines under government control produced a revenue in 1888 of $182,000.

The third article of commercial importance is cacao, which yields the producer a greater proportional profit, and the value of the exports of which amounted to $2,297,350 in 1888. There is plenty of suitable land upon which to increase the amount of this production also, the principal hindrance being, as in other cases, the scarcity of reliable laborers. The cacao of Venezuela is of superior quality, and the area of plantations was considerably increased about 1880, during the depression in coffee prices, upon the area of the coffee plantations.

Next in present importance are the herds of cattle and flocks of goats, which furnish, besides meat, milk, and cheese to the population, hides and skins for export, and cattle for some of the beef markets of some of the West Indian islands. The beef is always of inferior quality, as the grass it is fed upon is coarse, and there is no grain feeding. The cattle which arrive at or are produced near the coast for home meat market or for export would not be considered as in good working condition in the United States, and their meat is so tough that a beefsteak is fortunately unknown. It is divided for sale into chunks with a common axe, and so as to give to each customer impartially his share of the bones. The value of the cattle and asses exported in 1888 was $330,400. Coro, or the State of Falcon, of which it is the capital, furnishes the largest number of goat-skins for export, which, as they are shipped through the Dutch port of Curaçao, have acquired from their well-

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known and illy-pronounced name of "Curaçao" kid and goat. The island of Curaçao does not produce a hundred bales of goat-skins per year. The value of the hides and skins shipped from Venezuela in 1888 was $899,865, making with the value of stock exported $1,230,265. The latest statistics of live stock are for 1886, as follows:

Classes.	Number.	Classes.	Number.
Horned cattle	5, 275, 481	Swine	1, 439, 186
Goats and sheep	4, 645, 858	Total	12, 752, 750
Horses and mules	622, 306		
Asses	769, 920		

All the domestic animals of Venezuela, and generally of the tropics, which are unimproved, are of small or medium size, but active and hardy. Venezuela has comparatively few sheep, and finds a better and easier profit in goats.

There are hundreds of other productions of this rich country which are of domestic and commercial value, but which need not enter into particular consideration until they become of general or special importance. Fruits of all tropical kinds are sufficiently abundant, and production can be infinitely multiplied, but there is at present no foreign market. The forests are rich in woods valuable for household furniture and other purposes, but labor is lacking to make even the best of them available. Not much grain is produced, nor will there ever be under prevalent conditions of climate, labor, and easy existence upon spontaneous productions. Corn grows and yields good crops when fairly attended to and free from the ravages of locusts; but it is safe to assume that, as regularity of farm labor can not be commanded, and as locusts are liable to pass in any year and leave no leafy vestige, even the highest palm trees being made clean skeletons, corn will not very soon be cultivated to any extent; not usually enough to yield green corn for the city markets.

FOREIGN COMMERCE.

According to the best authority at hand the foreign commerce of Venezuela for 1888—the latest statement—amounted to a total of $35,387,551, in which her export excess was $3,802,235, showing very favorable conditions. This commerce, as to leading countries and the value of their respective imports and exports, may be tabulated as follows:

Imports from—	Value.	Exports to—	Value.
Great Britain	*$4, 702, 023	United States	$9, 123, 699
United States	3, 948, 765	France	3, 041, 902
Germany	2, 692, 080	Germany	2, 009, 377
France	2, 530, 355	Great Britain	1, 349, 845
United States of Colombia	869, 095	All others	3, 241, 491
All others	1, 050, 340	Total exports	19, 594, 813
Total imports	15, 792, 658	Total trade	35, 387, 551

*Of this amount, only $2,907,335 was of British products.

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TRADE WITH THE UNITED STATES.

It will be seen from the foregoing that the United States purchases from Venezuela nearly as much as all other countries combined, while Venezuela purchases of us only a little more than 25 per cent. of her importations, but buys considerably more than twice as much from three European countries as from us.

Character and value of imports from Venezuela into the United States during the year ending June 30, 1889.

Articles free of duty.	Value.	Articles paying duty.	Value.
Animals	$70	Books, maps, etc	$1,559
Cacao or cocoa	138,753	Carpet wool	233
Cinchona	3,099	Copper ore	54
Cocoanuts	6,291	Copper bars	35
Coffee (63,114,529 pounds)	9,138,591	Drugs and dyes	334
Cotton	10,135	Fish	2
Drugs and dyes	72,343	Fruits, preserved	24
Dye woods	18,252	Furniture	7
Furs and skins	87	Hats	30
Goat skins	330,969	Lead, manufactures of	187
Guano	71,690	Metal, manufactures of	25
Hides	530,913	Musical instruments	208
Household goods	50	Oranges	31
Resins and gums	483	Sheep	25
Rubber, crude	38,157	Spirits	12
Seeds	371	Zink, spelter, etc	4,009
Spirits, distilled	1,211		
Vegetable ivory	120	Total dutiable	6,800
Woods	5,637	Add free articles	10,385,769
All other articles	18,547		
		Total imports	10,392,569
Total free of duty	10,385,769		

The imports of 1889, paying duties at the average rate of 45.13 per cent. ad valorem on dutiable articles, would augment our treasury account $1,809.26. Had the total importations paid duty at the now average rate of 29.50 per cent. on all articles, free and dutiable, our treasury receipts would have been $3,045,807.85. We therefore remitted, on Venezuelan exports to this country for the year, $3,043,998.59.

Classes and value of exports of domestic products from the United States to Venezuela during the year ending June 30, 1889.

Articles.	Value.	Articles.	Value.
Breadstuffs:		Provisions, as meats, etc.:	
Corn	$118,724	Bacon and hams	$70,393
Wheat flour	791,007	Butter	109,440
All other	79,858	Lard	477,036
Chemicals, drugs, dyes, etc	137,265	All other	17,162
Cotton, manufactures of	467,141	Tobacco and manufactures of	87,825
Iron and steel, manufactures of	442,450	Wood, manufactures of	91,351
Oils, mineral, refined	121,849	Other merchandise	690,104
		Total exports	3,701,605

A detailed list of articles entering into the foregoing statement would show over fifty classes, besides more than a hundred specific articles. In a statement of trade with South American countries, on other pages of this report, a record of the exports of agriculture of 1889 will be found.

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Nearly one-half of all Venezuela sells for export is sold to the United States, and nearly all that amount comes in free of duty here. There is, however, a tax on exports from Venezuela, forbidden by its constitution, but effectually collected, of varying amount according to the determination of executive decrees. The amount of this levy upon foreign consumers is difficult to determine, as is the ad valorem rate of import tax, as it is made up of varying items; as, wharfage tax, trucking charges, state tax, etc., which varies with the charges where the tax is levied, and is not published in official reports. It is safe to assume that it amounts to as much as the export tax on coffee in Brazil, which is 16 per cent. ad valorem. At that rate the export tax on goods sent to the United States in 1889 would return to Venezuela an income of $592,593 on the export branch of her trade with us. On the import side the duties are much higher; but as there is a varying rate, running through eight classes, from nearly 9 cents to $176 per 100 pounds gross weight of goods, this also can only be approximately determined as to average rate of ad valorem duty. This average, taking the record of imports and of duties collected for a series of years, and a range from 29.6 to 54.8, appears to be a little more than 40 per cent. At the rate of 40 per cent. our exports to Venezuela paid duties to her in 1889 amounting to $1,481,482; to which add her export tax on shipments to us, and it appears that there was a pecuniary gain on the whole trade with the United States of $2,034,075. This amount added to that of the duties remitted on our imports from Venezuela, before mentioned, amounting to $3,043,998, would give a total of $5,078,073, or the amount of annual expenditure of the Venezuelan Government.

EUROPEAN CROP REPORT FOR SEPTEMBER.

GREAT BRITAIN AND IRELAND.

Broken and rainy weather has seriously interfered with harvesting in many parts of Great Britain during the past week, and there yet appears no indication of a return to settled conditions. Nevertheless, the general impression is that the cereals will be slightly under an average on a reduced acreage. The Irish agricultural statistics show the total under crops to be 4,918,965 acres, a decrease of 137,051 acres compared with last year. The area under grass is 10,211,174 acres, an increase of 212,877 acres this year. There are 327,447 acres under woods and plantations, a slight increase of 841 acres. Under bog and waste, barren and mountain land there are 4,855,629 acres, or a decrease of 79,725 acres compared with 1889. There is a decrease of 13,711 acres under oats, of 3,340 acres under barley, and of 1,511 acres under rye, while there is an increase of 3,463 acres under wheat, and of 13 acres under beans, showing a total decrease of 20,486 acres in extent under cereal crops. The acreage under mangel-wurzel and beet-root has increased by 2,430 acres, under cabbage by 3,520 acres, and vetches

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and rape by 228 acres. Contrary to the general belief, the extent under potatoes is less by 6,433 acres, the total this year being 880,801 acres. The area under carrots, parsnips, and other green crops is less by 2,546 acres. The area under flax is 96,871 acres, being a decrease of 16,781 acres.

The official report on the condition of the potato crop is most alarming, and the weather following the issue of the report has left the situation more distressing.

FRANCE.

During the past two weeks the estimates of the probable total yield of wheat, owing to the bad weather and the result of the threshing in the southern and western departments, have been declining, and the *Bulletin des Halles* preliminary statement is that the crop will not exceed 95,000,000 hectoliters as against an average of 105,000,000. The samples of wheat which have appeared on the market are wanting in dryness and stocks are at the lowest ebb.

GERMANY.

The last ten days in Germany have been prejudicial to the ungathered crops, but happily a large proportion of the cereals had been secured under favorable conditions. The wheat crop appears to be a good one, much better than last year, the only complaint being that the samples of new wheat offered show great variety, and the color in many instances dull. The earlier reports of an average rye crop in Prussia were unfounded, and a general under average crop throughout Germany may be expected. Oats are somewhat better, but not a full average. Potatoes have fared worst of all. As in most other European countries, the reserves of grain are very small, and an active autumn importation from Russia and Hungary has commenced.

AUSTRIA-HUNGARY.

It has been long expected the Austro-Hungarian wheat crop would be a most excellent one, and the results have not only justified the expectation, but have exceeded it, and the Empire is credited with a yield rivaling that of the great year of 1887. The other cereals have also yielded in abundance. M. Leinkauf gives the following estimate: Wheat, 29,000,000 qrs.; rye, 21,800,000; barley, 19,660,000; oats, 30,930,000. The surplus of wheat is estimated at from 5,000,000 to 5,500,000 qrs.; barley, 2,000,000, qrs.; oats, 1,375,000.

BELGIUM AND HOLLAND.

The figures of the Vienna Congress of 100 and 88, respectively, for wheat in these countries correspond with the general estimates of the agricultural press. The weather during the past week has been unfavorable, delaying the gathering of the crops. The most serious news comes from the most important hop centers in Belgium, that on ac-

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count of the ravages of vermin and continued cold nights the yield of hops will probably be only a quarter of the average of recent years and the prices quoted are nearly double that of September 1, 1889.

ITALY.

The Italian crops have proved most abundant, better than in several years. Wheat and maize are particularly well spoken of, and the olive and all root crops are expected to be large.

RUSSIA.

The Hungarian minister of agriculture estimates the Russian wheat crop to be 45 per cent. larger than the poor crop of last year, and the percentages of the Vienna Congress would indicate that the estimate is probably not excessive, although such an important department as Podolia shows a large deficiency.

ROUMANIA AND SERVIA.

From Bucharest it is reported that the wheat yield is exceedingly large, and that the acreage has increased from 850,000 hectares to 1,000,000. The surplus for export is estimated at over 10,000,000 hectoliters. Servia has an abundant yield and will export more largely than heretofore.

The following are the percentages of wheat production for 1890, as fixed by the Vienna Congress:

Country.	1890.	1889.	1888.	1887.
Austria	100	83	107	117
Hungary	127	72	110	126
Prussia	104	83	90	103
Saxony	110	80	95	102
Bavaria, Franconia, and Swabia	90	105	88	117
Upper and Lower Bavaria	110	85	102	125
Bavaria, Pfalz, and Witterau	105	85	75	97
Baden	105	80	85	100
Wurtumburg—				
Spring	107	91	90	96
Winter	102	93	90	83
Mecklenburg	105	95	98	105
Denmark	105	100	80	100
Norway and Sweden	80	95	95	100
Italy	90	80	75	90
Switzerland	120	100	78	100
Holland	88	105	82	102
Belgium	100	.....	82	.....
France	95	93	80	105
United Kingdom	100	100	78	120
Russia:				
Podolia	65	97	80	100
Bessarabia	125	50	125	100
Poland	98	28	87	100
Central	73	67	85	118
Cherson and Ekaterinoslav	105	41	120	120
Courland and Litterau	100	50	95	95
Estland	88	85	92	92
Roumania:				
Moldavia	100	77	130	90
Little Wallachia		91	100	125
Great Wallachia		70	120	101
Servia	100	78	120	140
Egypt	90	70	110	95

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The harvest of rye has been first rate in Hungary, Switzerland, Bessarabia, a part of Bavaria and Servia; above the average in Austria, Denmark, Würtemberg and Roumania, and everywhere else below the average. Barley was first rate in Hungary, Bessarabia, Cherson; above the average in Austria, Prussia, Würtemberg, Bavaria, Mecklenburg, Denmark; average in Saxony, Baden, Norway, Great Britain, Poland, Courland, Moldavia, and Egypt; and below the average everywhere else. The harvest of oats was first rate only in central Russia; above the average in Austria, Prussia, Saxony, parts of Bavaria, Würtemberg, Mecklenburg, Denmark, Switzerland, Holland, and Belgium; and below the average everywhere else. In Hungary, which (except for oats) has had one of the best harvests on record, the quality of the wheat and oats is satisfactory, and that of rye excellent.

The following table gives estimates of the wheat product of the principal countries of production, as presented by the Hungarian Minister of Agriculture:

Country.	Yield.		Estimated imports.	Estimated exports.
	1890.	1889.		
	Quarters.	*Quarters.*	*Quarters.*	*Quarters.*
United Kingdom	8,900,000	9,670,000	17,800,000	.....
France	35,000,000	38,300,000	5,000,000 to 6,800,000	.....
Germany	12,000,000	10,300,000	2,400,000 to 3,000,000	.....
Holland	600,000	700,000	1,000,000 to 1,300,000	.....
Switzerland	830,000 to 920,000	600,000	1,100,000	.....
Belgium	2,500,000	2,375,000	2,000,000	.....
Denmark	700,000	625,000	275,000	.....
Sweden and Norway	.....	499,000	343,000	.....
Spain	8,200,000	.....	.....	.....
Austria	5,800,000 to 6,500,000	5,260,000	3,430,000	.....
Russia	32,500,000	23,600,000	.....	13,700,000 to 16,400,000
Hungary	19,200,000 to 20,000,000	11,750,000	.....	8,500,000 to 9,000,000
Roumania	6,000,000 to 6,800,000	5,600,000	.....	3,430,000 to 4,800,000
Bulgaria and Eastern Roumelia	4,000,000	4,400,000	.....	1,400,000
Turkey	3,400,000 to 4,000,000	.....	.....	.....
Servia	1,100,000	625,000	.....	400,000 to 460,000
United States	51,400,000 to 51,800,000	58,300,000 to 59,000,000	.....	9,000,000 to 9,600,000
India	28,500,000 to 28,800,000	.....	.....	4,100,000
Canada	4,100,000	3,100,000	.....	700,000
Australia	4,400,000 to 4,800,000	.....	.....	2,500,000

E. J. MOFFAT.

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THE WILD FRUITS OF NORTHERN WISCONSIN.

The following statement is made by T. W. Clark, statistical correspondent for Marathon County, Wisconsin:

The northern half of Wisconsin is one vast berry patch. Strawberries grow profusely in their season; following them comes the blueberry during the months of July and August, this crop amounting to hundreds of thousands of bushels. Some black raspberries and a few service berries are found. The red raspberry, blackberry, and dewberry, or creeper blackberry, yield thousands of bushels.

Car-loads of glass cans are used annually in preserving these for winter use. Thousands of people find occupation in harvesting these spontaneous crops of luscious fruit. The cranberry comes to perfection in September, rounding out the season.

The value of the wild fruit utilized in northern Wisconsin is estimated at $1,000,000. Three or four times as much goes to waste for want of pickers.

The exceeding healthfulness of this portion of the country may be attributed in a great measure to the purity of the water and the profusion of fruits.

CROPS AND STOCK IN ONTARIO.

The bulletin for August, 1890, of the Bureau of Industries of Ontario, Canada, gives the estimated yield of several crops for the year as follows: Fall wheat, 14,823,240 bushels, an increase of 12.35 per cent. over last year; spring wheat, 9,628,180 bushels, an increase of 40.83 per cent.; barley, 16,311,370, a decrease of 30.25 per cent.; oats, 56,572,613, a decrease of 12.08 per cent.; rye, 1,617,535, an increase of 11.49 per cent.; and hay and clover, 4,305,915 tons, an increase of 13.42 per cent. The area of fall wheat is less by 102,000 acres than in 1889, but the yield is estimated at 20.6 bushels per acre against 15.8 last year. The acreage is 174,000 less, and the yield is 23.3 bushels per acre against 26.7 last year. There is also a decrease of 41,000 in the acreage of oats, and decrease in yield from 33.5 to 30.1 bushels per acre. The acreage of spring wheat, on the other hand, was greater than last year by 203,000, and the yield was 16 bushels to 14.8 in 1889, or 1.2 bushels more per acre. There were also 17,000 acres more in rye, and 76,000 more in hay and clover, than in 1889, with a decrease of .2 of a bushel per acre in the former case and an increase .19 of a ton per acre in the latter, relative to the yield of that year.

The grass crop has become the most important of any in the province. The area in wheat and barley is less than the average of the eight preceding years, in the first case by 176,000 acres, in the last by 71,000. In oats the increase above that average is 269,000 acres, and in hay and clover 225,000 acres. No estimates are given of the yield of corn and potatoes; but the acreage of the former is 223,836, being 16.41 per cent. over 1889, with indications of not more than an average crop at best, while there are 158,094 acres in the latter, or 7.77 per cent. more than last year, not generally in good condition. Stock generally is reported in fair condition, with not the usual number for fattening. In the western districts drought has diminished the milk supply, but the counties along the St. Lawrence River are turning out their usual amount of cheese. The supply of farm labor has been equal to but not exceeding

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the demand, and wages have ranged from $1 to $1.50 per day and from $15 to $25 per month.

MANITOBA CROP REPORT.

The bulletin of the Manitoba Department of Agriculture and Immigration for August 1, 1890, shows that the whole number of farms in the province is 13,877, with an average of 73 acres in crops, or a total of 1,013,021 acres—a little more than the area of Rhode Island. The cultivated area is stated to be 57.2 per cent. of the occupied area, and 71.4 per cent. of that fit for cultivation. The average value of improved farm lands is $9.43 per acre, and of unimproved farm land $5.43. The present season is reported as unusually excellent for crops in most parts, with an average rain-fall in June of 2.94 inches and in July of 3.31. Stock is in prime condition, except work horses, for which hay left over from last year was insufficient. Considerable attention is being given to cultivating Hungarian grass, millet, and to sown corn for feed, and stock-raising is on the increase, little butter and cheese being made except for home consumption. The average yield of prairie hay is a little less than a ton and a half per acre, but higher than last year, and of cultivated grass 1.86 tons to .95 in 1889. Potatoes and roots promise a large yield; peas average 23 bushels per acre, barley 34.3 against 18.5 last year, and oats promise 44.3 bushels to the acre, an increase of nearly a bushel over the last crop average. As to wheat, the general conditions were very promising over most of the province up to the 1st, and the estimates from all parts indicated an average of 24.6 bushels per acre, nearly 10 bushels per acre above the previous crops; but on the 2d the most disastrous hail-storm ever experienced there passed over the southern portion of the province and resulted in the total destruction of 31,851 acres of wheat, 8,403 of oats, and 1,180 of barley, besides the partial destruction of 2,637 acres of wheat, 1,103 of oats, and 460 of barley. The provincial department estimates the losses on the "totally destroyed" area at 473,140 bushels for wheat, 240,482 for oats, and nearly 21,000 for barley.

BRITISH RETURNS.

The summary of agricultural returns of Great Britain for 1890, collected on the 4th of June, shows the acreage in principal crops as follows: Wheat, 2,386,336 acres, a decrease of 2.6 per cent. from last year; barley, 2,111,178 acres, a decrease of .5 per cent.; oats, 2,902,998 acres, an increase of .5 per cent.; potatoes, 529,661 acres, and hops, 54,555, a decrease respectively of 8.6 and 5.5 per cent. There is a slight increase in barley and oats over 1888. In live stock the report shows that of cows and heifers in or coming into milk there are 2,537,990, an increase of 4.3 per cent. over 1889; of two-year-olds and over, 1,439,119, a slight decrease; and of cattle under two years, 2,531,523, an increase of 12.4 per cent.—a total of 6,508,623, or 6 per cent. more than in 1889. Of

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sheep there are 16,756,568, being 5.6 per cent. increase, and of lambs 10,515,891, or 7.6 increase over 1889; total, 27,272,459, with 6.4 per cent. increase. Of pigs there are this year 2,773,609, an increase of 10.5 over 1889. The increase in live stock over 1888 extends to all classes, varying from .3 to 15.4 per cent.

TRANSPORTATION RATES.

FREIGHT RATES—RAILROAD COMPANIES.

Returns from the several trunk-line companies for September 1, Chicago to New York, show only one change in the rates of freight upon agricultural products as compared with the rates reported August 1. The rates on wool, minimum weight 10,000 pounds, August 1, was 50 cents per 100 pounds, and on September 1 it is reported at 34½ cents; showing a reduction of 15½ cents per 100 pounds.

Several changes have occurred in the rates to and from Chicago and points on the Mississippi and Missouri Rivers, of which statements showing the same will be found in this report.

LAKE AND CANAL RATES.

Erie canal rates, Buffalo to New York, have been higher during August than they were during July. The average rate on oats for July was about 2⅜ cents per bushel, while for August it was nearly 2⅝ cents. Corn and rye was 3⅛ cents for July and 3½ for August. Wheat 3⅞ cents for July and nearly 4 cents for August. Lake rates, Chicago to Buffalo, were just the reverse—much lower for August than for July. The average rate on oats for July was about 1½ cents, and for August about 1⅛ cents. Wheat about 2¼ for July and 1½ for August. Corn about 2¼ and 1¼ respectively.

TRANSATLANTIC RATES.

Returns from the principal ocean steam-ship companies, New York to Liverpool, Glasgow, Bremen, and Havre, show a great reduction in the rates of freight upon our agricultural exports September 1, as compared with those for August 1. The following statement will show the rates in comparison upon some of the more important articles:

Articles.	New York to Liverpool—		New York to Glasgow—		New York to Bremen—	
	Aug. 1.	Sept. 1.	Aug. 1.	Sept. 1.	Aug. 1.	Sept. 1.
Wheat...per bushel..	$0.05	$0.03	$0.05⅛	$0.03	$0.16	$0.12
Corn .....do....	.05	.03	.05⅛	.03	.16	.12
Flour.....per barrel..	.36	.24	.36	.30	.72	.70
Flour in sacks, per ton..	2.40	1.80 to 2.40	2.40	2.40	.20	.20
Bacon .....do....	3.00	2.40	4.80	4.20	.24	.24
Lard .....do....	3.00	2.40	4.80	4.20	.24	.24
Cheese .....do....	4.80 to 6.00	4.80	8.40	7.20	.36	.36
Tallow .....do....	3.00	2.40	3.60	3.60	.24	.24
Hams .....do....	3.00 to 3.60	2.40	4.80	4.20	.25	.25

NOTE.—The rates, New York to Bremen, are in cents per 100 pounds, with the exception of flour which is per barrel.

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The following transportation companies report no important changes in their rates since last published:

Pennsylvania Railroad Company.
Pennsylvania lines (west of Pittsburgh.)
Baltimore and Ohio Railroad.
Lake Shore and Michigan Southern Railway.
New York Central and Hudson River Railroad.
New York, Lake Erie and Western Railway.
Delaware, Lackawanna, and Western Railroad (east and west bound.)
Illinois Central Railroad.
Louisville and Nashville Railroad.
Michigan Central Railroad.
Mobile and Ohio Railroad
Newport News and Mississippi Valley Company.
Northern Pacific Railway.
St. Paul and Duluth Railroad.
Southern Railway and Steam-ship Association.
Norwich and New York Transportation Company.
Old Dominion Steam-ship Company.
Portland Steam Packet Company.
St. Louis and Mississippi Valley Transportation Company.
Winsor Line.

RATES ON COTTON.

Thomas H. Carter, commissioner of the Southern Railway and Steam-ship Association, presents the following table showing the rates of freight on cotton from points named, to Southern and Eastern ports:

Rates on cotton, in effect August 16, 1890.

[In cents per 100 pounds.]

From—	To—									
	Brunswick, Ga.	Savannah, Ga., Port Royal, S. C., Charleston, S. C.	Wilmington, N. C.	Richmond, Va., West Point, Va., Petersburgh, Va., Lynchburgh, Va.	Portsmouth, Va., Norfolk, Va.	Baltimore, Md.	New York, N. Y., Philadelphia, Pa.	Providence, R. I., Boston, Mass.	New Orleans, La.	Mobile, Ala.
Anderson, S. C	.....	45	45	51	56	58	64	69	.....	.....
Anniston, Ala	45	45	45	56	56	61	66	71	48	43
Athens, Ga	43	43	43	54	54	59	64	69	54	.....
Atlanta, Ga	43	43	43	54	54	59	64	69	48	43
Augusta, Ga	.....	25	25	36	36	41	46	51	53	.....
Birmingham, Ala	45	45	45	56	56	61	66	71	45	45
Carrollton, Ga	.....	45	45	56	56	61	66	71	.....	.....
Cedartown, Ga	45	45	45	56	56	61	66	71	50	45
Chattanooga, Tenn	45	45	45	56	56	61	66	71	45	45
Columbus, Ga	45	45	45	56	56	61	66	71	50	.....
Dalton, Ga	45	45	45	56	56	61	66	71	50	45
Fort Valley, Ga	37	37	37	48	48	53	58	63	.....	.....
Gainesville, Ga	43	43	43	51	54	59	64	69	54	.....
Greenwood, S. C	.....	45	45	51	56	58	64	69	.....	.....
Greenville, S. C	.....	45	45	51	56	58	64	69	.....	.....
Griffin, Ga	41	41	41	52	52	57	62	67	.....	.....
Laurens, S. C	.....	45	45	51	56	58	64	69	.....	.....
Macon, Ga	34	34	34	45	45	50	55	60	50	.....
Milledgeville, Ga	.....	34	34	45	45	50	55	60	.....	.....
Montgomery, Ala	40	40	40	51	51	61	66	71	40	40
Opelika, Ala	.....	45	45	56	56	61	66	71	50	45
Rome, Ga	45	45	45	56	56	61	66	71	50	45
Sandersville, Ga	.....	33	33	44	44	49	54	59	.....	.....
Selma, Ala	40	40	40	51	51	61	66	71	40	40
Spartanburg, S. C	.....	45	45	51	56	58	64	69	.....	.....
Syllacauga, Ala	48	48	.....	59	59	.....	.....	.....	.....	.....

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The above association is composed of the following railway and steamship companies:

Central Railroad and Banking Company of Georgia.
Ocean Steam-ship Company of Savannah.
Port Royal and Augusta Railway Company.
Georgia Railroad Company.
East Tennessee, Virginia and Georgia Railway Company.
Richmond and Danville Railroad Company, including Georgia Pacific Railway Division.
South Carolina Railway Company.
Clyde steam lines.
Old Dominion Steam-ship Company.
Western and Atlantic Railroad Company.
Wilmington and Weldon Railroad Company.
Seaboard and Roanoke Railroad Company.
Merchants' and Miners' Transportation Company.
Baltimore, Chesapeake and Richmond Steam-boat Company.
Atlanta and West Point Railroad Company.
Western Railway Company of Alabama.
Norfolk and Western Railroad Company.
Georgia Southern and Florida Railroad Company.
Covington and Macon Railroad Company.

GRAND TRUNK RAILWAY.

[Rates in effect September 1, 1890, in cents per 100 pounds.]

Articles.	From Boston and Portland to—		To Boston and Portland from—	
	Chicago.	Detroit.	Chicago.	Detroit.
Agricultural implements:				
O. R., N. O. S., C. L.	26	20	35	28½
N. O. S., K. D. flat, in bundles, L. C. L	65	51	85	68½
Apples, green, in barrels O. R., P. P.:				
C. L.	26	20	35	28½
L. C. L	44	35	55	44
Bacon, packed:				
C. L	26	20	30	23
L. C. L	31	24	.....	32½
Beans, dried, N. O. S., in bags or barrels:				
C. L.	26	20	35	28½
L. C. L.	31	24	40	32½
Beef:				
Dressed, refrigerator cars, C. L	.....	.....	30	.....
In barrels or tierces, C. L	26	20	30	23
Butter, in wood, C. L.	57	45	71	56½
Cheese, in boxes or casks	44	35	55	44
Fertilizers:				
N. O. S., C. L.	22	18	30	19
In bags or barrels, L. C. L	31	24	40	32½
Flour:				
C. L., 125 barrels and over	22	18	30	22½
Less than 125 barrels	26	20	.....	24
Fruit:				
Green, N. O. S., P. P., released, C. L.	57	45	71	56½
Dried, N. O. S., in bags, barrels or casks, C. L	31	24	40	32½
Dried, N. O. S., in bags, barrels or casks, L. C. L	44	35	55	44
Grain, in bulk:				
C. L. (minimum weight 24,000 pounds)	22	18	30	22½
Less than 24,000 and more than 15,000 pounds	26	20	.....	24
Corn and oats, C. L.	22	18	25	20½

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GRAND TRUNK RAILWAY—Continued.

[Rates in effect September 1, 1890, in cents, per 100 pounds—Continued.]

Articles.	From Boston and Portland to—		To Boston and Portland from—	
	Chicago.	Detroit.	Chicago.	Detroit.
Hams, packed:				
C. L	26	20	30	23
L. C. L	31	24	.....	32½
Hides:				
Dry, loose, or in packages, C. L. (minimum weight 20,000 pounds)	31	24	40	32½
Dry, pressed in bales, L. C. L	65	51	85	68½
Green, in bundles, C. L	26	20	30	23
Hogs, dressed, refrigerator cars, C. L	.....	.....	30	.....
Hops, in bales, L. C. L	57	45	71	56½
Lard:				
C. L	26	20	30	23
In barrels or boxes, L. C. L	31	24	.....	32½
Lumber, N. O. S.:				
C. L	22	18	.....	24½
L. C. L	31	24	.....	32½
Pork, pickled, in barrels:				
C. L	26	20	30	23
L. C. L	31	24	....	32½
Potatoes, O. R., P. P.:				
C. L	26	20	30	28½
L. C. L	31	24	40	32½
Salt:				
C. L	22	18	30	24½
In boxes or bags, L. C. L	31	24	40	32½
Sheep, dressed, refrigerator cars, C. L	.....	.....	30	.....
Tobacco, unmanufactured, in hogsheads or cases, any quantity	31	24	40	28½
Wool, in bales or sacks:				
C. L. (minimum weight 10,000 pounds)	57	45	71	39½
L. C. L	65	51	85	68½
Cattle, C. L	.....	.....	18	16½
Sheep, C. L	.....	.....	.....	23½
Hogs, C. L	.....	.....	25	18
Horses and mules, C. L	.....	.....	60	47

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified. K. D.—Knocked down. P. P.—Prepaid.

CHICAGO AND ALTON RAILROAD.

[Rates in effect September 1, 1890, in cents per 100 pounds.]

Articles.	To Chicago from—			From Chicago to—			To East St. Louis from—			From East St. Louis to—		
	Bloomington.	East St. Louis.	Kansas City.	Bloomington.	East St. Louis.	Kansas City.	Louisiana.	Cedar City.	Kansas City.	Louisiana.	Cedar City.	Kansas City.
Agricultural implements, (except hand) O. R., C. L.	13.7	15	30	13.7	15	28	11	18½	23½	11	18½	20
Apples:												
C. L	12.6	14	25	12.6	14	21	9½	17	20	9½	16	16
L. C. L	20	20	40	20	20	42	17	27	30	17	27	32
Bacon:												
C. L	15	15	12	15	15	18	9½	12	13	9½	12	13
In barrels, L. C. L	20	20	30	20	20	28	14	22	25	14	22	23
Beef:												
Pickled, C. L	15	15	12	15	15	18	9½	12	13	9½	12	13
Salted, in barrels, L. C. L	20	20	30	20	20	28	14	22	25	14	22	23
Dressed, C. L	20	20	18½	20	20	23½	13½	13½	18½	13½	13½	18½
Butter, in wood or tin, O. R., L. C. L	26.6	29	60	26.6	29	58	22	40	40	22	35	38

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CHICAGO AND ALTON RAILROAD—Continued.

[Rates in effect September 1, 1890, in cents, per 100 pounds—Continued.]

Articles.	To Chicago from—			From Chicago to—			To East St. Louis from—			From East St. Louis to—		
	Bloomington.	East St. Louis.	Kansas City.	Bloomington.	East St. Louis.	Kansas City.	Louisiana.	Cedar City.	Kansas City.	Louisiana.	Cedar City.	Kansas City.
Cheese, in boxes, tubs, or casks:												
C. L	20	20	40	20	20	42	17	27	30	17	27	32
L. C. L	33.8	38	60	33.8	38	58	22	40	40	22	35	38
Cotton, pressed, in bales:												
C. L	20	20	30	20	20	28	14	22	25	14	22	23
L. C. L	26.6	29	75	26.6	29	70	30	50	55	30	45	50
Fertilizers, N. O. S.:												
In packages, C. L	7.1	9	16	7.1	9	15	7	9	11	7	9	10
In packages, L. C. L	20	20	30	20	20	28	14	22	25	14	22	23
N. O. S. in packages:												
Flour: N. O. S., in barrels 200 pounds per barrel:												
C. L	9.7	10	18½	9.7	10	22½	7½	13	17½	7½	13	17½
L. C. L	20	20	30	20	20	28	14	22	25	14	22	23
Grain, other than wheat, C. L	8.9	12	25	8.9	12	20	7	10	15	7	10	15
Hams:												
C. L	15	15	12	15	15	18	9½	12	13	9½	12	12
In barrels, L. C. L	20	20	30	20	20	28	14	22	25	14	22	23
Hogs, dressed, C. L	20	20	18½	20	20	23½	13½	13½	18½	13½	13½	13½
Lard in barrels or tierces:												
C. L	15	15	12	15	15	18	12	12	13	12	12	12
L. C. L	20	20	30	20	20	28	14	22	25	14	22	23
Lumber:												
C. L	9	10	*15	9	10	15	7	9½	*10½	7	7	*10½
L. C. L	20	20	30	20	20	28	14	22	25	14	22	23
Pork, salted:												
C. L	15	15	12	15	15	12	12	12	13	12	12	12
In barrels, L. C. L	20	20	20	20	20	28	14	22	25	14	22	23
Potatoes, N. O. S., in sacks or barrels, O. R.:												
C. L	9.7	13	20	9.7	13	18	9	14	15	9	13	15
L. C. L	20	20	30	20	20	28	14	22	25	14	22	23
Salt, C. L	20	20	13	20	20	13	6¾	9¾	9¾	6¾	9¾	9¾
Sheep, dressed, C. L	20	20	18½	20	20	18½	13½	13½	18½	13½	13½	13½
Tobacco, unmanufactured, in hhds	20	20	30	20	20	28	14	22	25	14	22	23
Wheat, C. L	9.7	13	21½	9.7	9.7	22½	7½	13	17½	7½	13	17½
Wool, C. L. (minimum weight 20,000 pounds)	13.7	15	40	13.7	13.7	42	17	27	30	17	27	32
Cattle:												
C. L. (minimum weight 20,000 lbs.)	11.8	14	12½	11.8	11.8	22	9¼	13	13¾	9¼	13	13½
Estimated weight, L. C. L	43.2	47	75	43.2	43.2	70	50	45	50	50	45	50
Horses:												
C. L. (minimum weight 20,000 lbs.)	12.98	15.4	†60.00	12.98	12.98	†60.00	†23.00	†35.00	†40.00	†23.00	†35.00	*40.00
Estimated weight, L. C. L	43.2	47	75	43.2	43.2	70	50	45	50	50	45	50
Sheep:												
S. D., C. L. (minimum weight 12,000 lbs.)	16.7	20	22	16.7	16.7	25	12	14	17½	12	14	17½
D. D., C. L. (minimum weight 20,000 lbs.)	16.7	20	22	16.7	16.7	25	12	14	17½	12	14	17½
Hogs:												
S. D., C. L. (minimum weight 15,000 lbs.)	15.9	19	22	15.9	15.9	25	12	12	15	11	12	15
D. D., C. L. (minimum weight 22,000 lbs.)	15.9	19	22	15.9	15.9	25	12	12	15	11	12	15
Hogs:												
Estimated weight, L. C. L	43.2	47	75	43	43.2	70	50	45	50	50	45	50

* In effect September 6. † In dollars per car. C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified. S. D.—Single-deck. D. D.—Double-deck.

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CHICAGO, BURLINGTON AND QUINCY RAILROAD.

[Rates in effect September 1, 1890.]

Articles.		To St. Louis from—		To Chicago from—	
		Atchison, Kansas City, St. Joseph.	Omaha, Council Bluffs.	Atchison, Kansas City, St. Joseph.	Omaha, Council Bluffs.
Apples, in barrels or boxes, O. R., prepaid or guaranteed					
C. L	per 100 lbs.	$0.20	$0.20	$0.25	$0.25
L. C. L	do.	30	30	40	40
Bacon and hams:					
Packed, C. L	do.	13	13	18	18
In barrels, boxes, or crates, L. C. L	do.	25	25	30	30
Beef:					
Dried or pickled, in barrels or tierces, C. L	do.	13	13	18	18
Dried, in boxes, barrels, or crates, L. C. L	do.	25	25	30	30
Dressed, common cars, C. L	do.	18⅛	18⅛	23⅛	23⅛
Dressed, refrigerator cars, C. L	do.	18⅛	18⅛	23⅛	23⅛
Butter, in wood or tin, O. R.:					
C. L	do.	30	30	40	40
L. C. L	do.	40	40	60	60
Cheese, in boxes, tubs, or casks:					
C. L	do.	30	30	40	40
L. C. L	do.	40	40	60	60
Cotton, pressed in bales, any quantity	do.	55	55	75	75
Fertilizers, except guano N. O. S., in packages:					
C. L	do.	11	11	16	16
L. C. L	do.	25	25	30	30
Flour:					
C. L	do.	17½	20	22½	25
In barrels (200 pounds per barrel) L. C. L	do.	25	25	30	30
Hides, dry:					
In bundles, L. C. L	do.	55	55	75	75
C. L. (minimum weight, 10,000 pounds)	do.	40	40	60	60
Hides, green, in bundles, C. L	do.	20	20	25	25
Hogs dressed:					
Common cars, C. L	do.	18⅛	18⅛	23⅛	23⅛
Refrigerator cars, C. L	do.	18⅛	18⅛	23⅛	23⅛
Lard, in barrels or tierces:					
C. L	do.	13	13	18	18
L. C. L	do.	25	25	30	30
Lumber:					
Soft, C. L	do.	10½	08⅛	15	15
Hard, C. L	do.	11⅛	11⅛	16	16
(Except woods of value), L. C. L	do.	25	25	30	30
Pork, packed:					
C. L	do.	13	13	18	18
L. C. L	do.	25	25	30	30
Potatoes, N. O. S., in sacks or barrels, O. R.:					
C. L	do.	15	15	20	20
L. C. L	do.	25	25	30	30
Potatoes, sweet, O. R., L. C. L	do.	40	40	60	60
Tobacco, unmanufactured, in hogsheads or cases, L. C. L	do.	25	25	30	30
Wool:					
Compressed in bales, L. C. L	do.	30	30	40	40
In sacks, L. C. L	do.	40	40	60	60
Grain:					
Wheat, C. L	do.	17½	20	22½	25
Corn, rye, oats, and barley, C. L	do.	15	15	20	20
Seeds, flax, hemp, Hungarian, millet or sorghum, O. R. C. L	do.	17½	20	22½	25
Cattle, C. L	do.	18⅜	13¼	22	22
Sheep, S. D. or D. D., C. L	do.	21½	17½	25	25
Hogs, S. D. or D. D., C. L	do.	21½	17½	25	25
Horses, C. L	per standard car	40.00	40.00	60.00	60.00

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. P. P—Prepaid.—N. O. S.—Not otherwise specified. S. D.—Single-deck. D. D.—Double-deck.

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MERCHANTS AND MINERS' TRANSPORTATION COMPANY.

[Rates in effect September 1, 1890.]

Articles.	From Baltimore to—				To Baltimore from—			
	Boston.	Savannah.	Norfolk.	Providence.	Boston.	Savannah.	Norfolk.	Providence.
Apples ..... per barrel..	$0.35	$0.35	$0.10	$0.35	$0.35	$0.35	$0.10	$0.35
Bacon ..... per 100 pounds..	.15	.15	.08	.15	.12½	.15	.08	.10
Beef ..... do....	.15	.15	.08	.....	*.60	.15	.08	*.60
Butter ..... do....	.35	.25	.15	.25	.35	.25	.15	.35
Cheese ..... do....	.20	.25	.15	.25	.21	.25	.15	.21
Cotton, compressed ..... per bale..	1.00	1.00	.50	1.00	1.00	1.00	.50	1.00
Fertilizers ..... per 100 pounds..	.12½	.12½	.....	.12½	.12½	.12½	.....	.12½
Flour ..... per barrel..	.25	.25	.12	.25	.25	.25	.12	.25
Hams ..... per 100 pounds..	.15	.15	.08	.15	.15	.15	.08	.15
Lard ..... do....	.15	.15	.08	.15	.15	.15	.08	.15
Lumber ..... do....	.12½	†7.00	.10	.12½	.12½	†7.00	.10	.12½
Pork ..... do....	.15	.15	.08	.15	*.60	.15	.08	*.60
Potatoes ..... per barrel..	.35	.35	.12	.35	.35	.35	.12	.35
Salt ..... per 100 pounds..	.12½	.12½	.10	.12½	.12½	.12½	.....	.12½
Tobacco, unmanufactured, in hogsheads.. per hhd..	2.00	2.00	1.00	2.00	2.00	2.00	1.00	2.00
Wool ..... per 100 pounds..	.30	.30	.15	.30	.30	.30	.15	.30
Wheat, corn, rye, oats, and barley ..... do ..	.12	.12	.08	.12	.12	.12	.08	.12
Cattle, O. R., released ..... each..	12.50	12.50	2.50	12.50	12.50	12.50	2.50	12.50
Horses, O. R., released ..... do....	20.00	20.00	2.50	20.00	20.00	20.00	2.50	20.00
Sheep, O. R., released ..... do....	2.50	2.50	1.00	2.50	2.50	2.50	1.00	2.50
Hogs, O. R., released ..... do....	2.50	2.50	1.50	2.50	2.50	2.50	1.50	2.50

† Per 1,000 feet. O. R., Owner's risk.

OLD DOMINION STEAM-SHIP COMPANY.

[Rates in effect September 1, 1890.]

Articles.	From New York to—				To New York from—			
	Norfolk.	Petersburgh.	Richmond.	Newport News.	Norfolk.	Petersburgh.	Richmond.	Newport News.
Apples ..... per barrel..	$0.20	†$0.20	$0.30	$0.25	$0.25	†$0.20	$0.30	$0.25
Bacon ..... per 100 pounds..	.10	.11	.14	.10	.10	.11	.16	.12½
Beef and pork ..... per barrel..	.30	†.11	.38	.35	.30	†.11	.38	.35
Butter ..... per 100 pounds..	.23	.27	.25	.23	.23	.27	.25	.23
Cheese ..... do ..	.20	.16	.20	.20	.20	.16	.20	.13
Cotton ..... per bale..	.60	.75	.....	.60	.60	.75	.75	.60
Fertilizers ..... per 100 pounds..	.10	.10	.....	.12½	.....	.10	.....	.....
Flour ..... per barrel..	.20	.22	.28	.20	.20	.22	.26½	.25½
Hams ..... per 100 pounds..	.12½	.11	*.43	.15	.12½	.11	*.43	.15
Lard ..... do ..	.18	.16	‡.20	.15	.18	.16	.15	.20
Lumber ..... per 1,000 feet..	.....	.....	.....	.....	4.25	6.00	5.00	4.25
Potatoes ..... per barrel..	.25	†.20	.30	.25	.25	†.20	.27	.30
Salt ..... per sack..	.25	†.11	†.15	.25	.25	†.11	.30	.25
Tobacco, unmanufactured, in hogsheads.. per hhd..	.....	1.75	1.50	.....	.....	1.75	1.50	.....
Wheat ..... per bushel..	.06	.07	.06	.06	.06	.07	.07½	.06
Corn ..... do....	.06	.07	.06	.06	.05	.07	.06	.05
Rye ..... do....	.06	.07	.06	.06	.....	.07	.....	.....
Oats ..... do....	.06	.07	.06	.06	.06	.07	.06½	.06
Barley ..... do....	.06	.07	†20	.06	.....	.....	.....	.....

* Per barrel. † Per 100 pounds. ‡ In tubs.

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MONTHLY STATEMENT OF CANAL AND LAKE RATES.

[For August, 1890.]

Date.	Canal rates, Buffalo to New York.					Lake rates, Chicago to Buffalo.		
	Oats per bushel.	Corn and rye per bushel.	Wheat per bushel.	Lumber per 1,000 feet.		Oats per bushel.	Corn per bushel.	Wheat per bushel.
				To Albany.	To New York.			
	Cents.	*Cents.*	*Cents.*			*Cents.*	*Cents.*	*Cents.*
July 1	2¼	3¼	3¾	$1.75	$2.25	1	1	1⅛
2	2¼	3¼	3¾	1.75	2.25	1	1	1⅛
3	2¼	3¼	3¾	1.75	2.25	1	1¼	1⅛
4	2¼	3¼	3¾	1.75	2.25	1	1¼	1⅛
5	2⅜	3¼	3¾	1.75	2.25	1	1¼	1⅛
6	2⅜	3¼	3¾	1.75	2.25	1	1¼	1⅛
7	2⅜	3¼	3¾	1.75	2.25	1	1¼	1⅛
8	2⅜	3¼	3¾	1.75	2.25	1¼	1¼	1⅛
9	2⅜	3¼	3¾	1.75	2.25	1¼	1¼	1⅛
10	2⅜	3½	3¾	1.75	2.25	1¼	1¼	1⅛
11	2⅜	3⅜	4	1.75	2.25	1¼	1¼	1⅛
12	2⅜	3⅜	4	1.75	2.25	1¼	1¼	1⅛
13	2⅜	3⅜	4	1.75	2.25	1¼	1¼	1⅛
14	2⅜	3⅜	4	1.75	2.25	1¼	1¼	1⅛
15	2⅜	3⅜	4	1.75	2.25	1⅛	1¼	1⅛
16	2⅜	3⅜	4	1.75	2.25	1⅛	1¼	1⅛
17	2⅜	3⅜	4	1.75	2.25	1⅛	1¼	1⅛
18	2⅜	3⅜	4	1.75	2.25	1⅛	1¼	1⅛
19	2⅜	3½	4	1.75	2.25	1⅛	1¼	1⅛
20	2⅜	3⅜	4	1.75	2.25	1⅛	1¼	1⅛
21	2⅜	3⅜	4	1.75	2.25	1⅛	1¼	1⅛
22	2⅜	3⅜	4	1.75	2.25	1⅛	1¼	1⅛
23	2⅜	3⅜	4	1.75	2.25	1⅛	1¼	1⅛
24	2⅜	3⅜	4	1.75	2.25	1⅛	1¼	1⅛
25	2⅜	3⅜	4	1.75	2.25	1⅛	1¼	1⅛
26	2⅜	3⅜	4	1.75	2.25	1⅛	1¼	1⅛
27	2⅜	3⅜	4	1.75	2.25	1⅛	1¼	1⅛
28	2⅜	3⅜	4	1.75	2.25	1⅛	1¼	1⅛
29	2⅜	3½	4	1.75	2.25	1⅛	1¼	1⅛
30	2⅜	3⅜	4	1.75	2.25	1⅛	1¼	1⅛
31	2⅜	3⅜	4	1.75	2.25	1⅛	1¼	1⅛

YAZOO AND TALLAHATCHIE TRANSPORTATION COMPANY.

[Rates in effect September 1, 1890.]

Articles.	From Vicksburg, Miss., to—					
	All landings below Yazoo City.	Yazoo City.	Silver Creek and Tchula.	Riverside.	Greenwood.	Tallahatchie River.
Apples, green, in barrels, per bbl.	$0.20	$0.15	$0.20	$0.20	$0.20	$0.25
Apples and peaches, dried, per 100 lbs.	.12½	.10	.12½	.12½	.12½	.15
Bacon, packed, do	.10	.10	.10	.10	.10	.12½
Beef and pork, per bbl.	.35	.30	.35	.35	.35	.40
Butter, in wood, per 100 lbs.	.12½	.10	.12½	.12½	.12½	.15
Cheese, do	.12½	.10	.12½	.12½	.12½	.15
Corn meal, per bbl.	.20	.15	.20	.20	.20	.25
Cotton, in bales, per bale.	.75	.75	.75	.75	.75	1.00
Flour, in barrels, per bbl.	.20	.20	.20	.20	.20	.25
Grain, per 100 lbs.	.10	.10	.10	.10	.10	.12½
Lard, in buckets, tierces, kegs, or cases, do	.10	.10	.10	.10	.10	.12½
Lumber, per 1,000 feet.	4.00	4.00	4.00	5.00	5.00	6.00
Oranges and lemons, per 100 lbs.	.25	.25	.25	.25	.25	.30
Potatoes, in barrels, per bbl.	.20	.20	.20	.20	.20	.25
Salt, per sack.	.20	.20	.20	.20	.20	.25

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OCEAN STEAM-SHIP COMPANIES.

[Rates in effect September 1, 1890.]

Articles.	White Star Line, New York to Liverpool.	Inman Line, New York to Liverpool.	Guion Line, New York to Liverpool.	Anchor Line, New York to Glasgow.
Wheat.....per bushel..	$0.02	$0.04	$0.03	$0.03
Corn.....do.....	.02	.04	.03	.03
Flour.....per barrel..	.24	.24	.36	.30
Flour (in sacks).....per 2,240 pounds..	1.80	2.40	2.40	2.40
Bacon.....do....	2.40	2.40	2.40	4.20
Lard.....do....	2.40	2.40	2.40	4.20
Cheese.....do....	4.80	4.80	4.20	7.20
Tallow.....do....	2.40	2.40	2.40	3.60
Beef.....per tierce..	.48	.48	.48	.84
Pork.....per barrel..	.36	.30	.36	.60
Oil-cake.....per 2,240 pounds..	1.20	2.20	2.40	2.40
Cotton.....per pound..	.00¼	.00¼	.00¼	.....
Hops.....do....	.01	.00⅜	.00½	.00¾
Tobacco.....per hogshead..	3.60	4.80	.....	4.80
Rosin.....per 280 pounds..	.24	.36	.....	.24
Lard (in small packages).....per 2,240 pounds..	4.80	4.86	4.20	5.40
Tobacco (in cases).....per 40 cubic feet..	3.60	3.60	4.80	4.80
Apples.....per barrel..	.72	.60	.60	.84
Hams.....per 2,240 pounds..	2.40	2.40	2.40	4.20
Butter.....do....	7.20	7.20	7.20	7.20
Measurement per ton (40 cubic feet).....	3.60	3.60	3.00	4.20 to 6.00
Primage.....per cent..	5	5	5	5

Articles.	North German Lloyd Steam-ship Company, New York to Bremen.	General Transatlantic Company, New York to Havre.
Wheat.....per 100 pounds..	$0.12	*$0.08
Corn.....do...	.12	*.08
Flour.....per barrel..	.70	1.00
Flour (in sacks).....per 100 pounds..	.20	.25
Bacon.....do....	.24	.....
Lard.....do....	.24	.30
Cheese.....do....	.36	.....
Tallow.....do....	.24	.27½
Beef.....per tierce..	1.25	1.25
Pork.....per barrel..	.95	1.00
Oil-cake.....per 100 pounds..	.18	.25
Cotton.....per pound..	†.00½	.00½
Hops.....do....	†.01	.01
Tobacco.....per hogshead..	6.00	7.00 to 7.50
Rosin.....per 280 pounds..	.50	.....
Lard (in small packages).....per 100 pounds..	.36	.40 to .50
Tobacco (in cases).....per case..	1.50	.....
Apples.....per barrel..	.90	.90
Hams.....per 100 pounds..	.25	.....
Butter.....do....	.60	.40
Measurement per ton (40 cubic feet).....	4.80 to 10.00	8.00 to 10.00
Primage.....per cent..	.....	5

*Per bushel. †And 5 per cent. primage.

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DEPARTMENT OF AGRICULTURE.
REPORT OF THE STATISTICIAN.
New Series. Report No. 78.

REPORT

ON

CONDITION OF CROPS,

YIELD OF GRAIN PER ACRE,

AND ON

FREIGHT RATES OF TRANSPORTATION COMPANIES.

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

OCTOBER, 1890.

WASHINGTON:
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1890.

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OCTOBER REPORT.

DEPARTMENT OF AGRICULTURE,
October 13, 1890.

SIR: I present herewith for publication the results of the October returns of Department correspondents, which give the final report of the condition of corn, cotton, potatoes, buckwheat, tobacco, and sugar-cane, and the rate of yield per acre of wheat, rye, oats, and barley. A report on production in foreign countries is also presented from our European agent, and from other sources.

From the section of transportation are presented tabulated statements of new rates and changes in rates of several lines.

Respectfully,

J. R. DODGE,
Statistician.

Hon. J. M. RUSK,
Secretary.

CONDITION AND YIELD OF CROPS.

WHEAT.

The returns of condition of wheat during the season have been uniformly unfavorable. The effect of freezing, after the succulent growth of an abnormally warm winter, was unusually disastrous. And yet the well-rooted plants, that from favorable conditions of soil and situation were able to endure the exigencies of the season unscathed, necessarily made good yields. These facts foreshadowed a variable rate of production which renders it difficult to average the outcome.

The present returns are in close accord with the previous records of widely variable local prospects. Some fields, indeed whole farms, have made heavy returns under the test of thrashing. Others are partial failures, and some report a total loss. In the latter class are the areas which were plowed up and planted in corn and other crops. This elimination of the worst areas, while it reduces the acreage, increases the yield per acre. But for this the recorded rate of yield would have been lower.

The present report practically settles the amount of the year's crop. These yields applied to the area returned in June give the products of the States, subject to the slight adjustments, especially of area, neces-

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sary in harmonizing the various tests of the season. This determines the harvest of the year, as nearly as it can be indicated by the necessarily imperfect method of local estimates. The final adjustment rarely changes the figures more than 1 per cent. or 2 at most. If these final figures are not more than 2 or 3 per cent. away from the actual product it is sufficiently near for all practical purposes, and much nearer than some of the former records of the United States Census in some important crops.

The average yield of wheat, winter and spring, is made 11.1 bushels; separately, winter wheat 10.8 bushels; spring wheat 11.5 bushels. Some of the higher State averages for winter wheat, are: New York, 15.2; Pennsylvania, 12; Ohio, 12.5; Michigan, 15.2; Illinois, 11.5; Missouri, 11.2; Kansas, 13.5; California, 12; Oregon, 15.

The crop made a very low yield throughout the South, where the acreage is small. In the Ohio Valley the variation in yield, in different counties, as on farms in the same county, has an extraordinary range, from 5 to 25 bushels, and in extreme cases from 1 to 30 bushels. One county in Illinois claims "the best crop in years," and others make very disappointing returns. Soils in good condition, that had thorough tillage, made the best yields.

The Rocky Mountain areas made high averages in spring wheat on limited areas. The Dakota yields, varying from 1 to 25 bushels, make an average of 9 bushels per acre, Minnesota returns 12, and Wisconsin 12.5 bushels.

A few voluntary remarks of correspondents, accompanying estimates of spring wheat, are appended.

WISCONSIN.—*Calumet:* Winter wheat, condition and yield good. *Manitowoc:* Light yield; quality inferior. *Walworth:* Poorest crop in years. *Fond du Lac:* Above the average. *Waukesha:* Above the average. *Wood:* Thrashing out well. *Burnett:* Did not come up to expectation. *La Fayette:* Hurt by rust, and in some places by chinch-bug. *Outagamie:* Good quality and yield.

MINNESOTA.—*Washington:* Badly damaged by rust and blight. *Nobles:* Will grade about No. 2. Light yield, owing to rust, blight, and unfavorable harvest weather. *Watonwan:* Very uneven. Some crops average 4 bushels, while a few pieces will make 24 bushels per acre. Generally No. 2 in grade. *Le Sueur:* Turning out better than expected. *Marshall:* Nos. 1 and 2 mostly, and 9 bushels per acre. *Polk:* Considerably below average yield. Reports vary from 7 to 12 bushels per acre, of mostly No. 2 and No. 1 northern. Hot winds and drought were the causes. *Rice:* Yielded better than expected. *Kandiyohi:* A grade and a half lower than last year's, owing to shrunken grain. The best crops are yet in the field, and the yield of that will be a little higher than now given. *Ramsey:* Fair yield, but light weight. *Rock:* Many fields yielded 16 to 17 bushels per acre, yet many more were poorly gathered, badly stacked, and wasted by negligence. *Morrison:* Does not turn out as well as anticipated. *Chippewa:* In rating quality good. No. 2 is regarded as "high medium grade." The great bulk of the crop is low No. 2. A little is No. 1 and more No. 3. *Isanti:* Not so good as expected. *Renville:* Nos. 2 and 3 and below, owing to rust and blight. *Todd:* Yielding less than expected, and there is much shrunken and damaged wheat. No. 1 hard and but little No. 1 northern goes to market. *Traverse:* Yield varies from 2 to 10 bushels per acre, and quality No. 3 to No. 1 northern.

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OATS.

The yield of oats is no better than the previous indications of condition, the average being 19.8 bushels per acre, the worst record of this crop that has ever been made by this Department. The winter oats of the South were cut down by the frosts of March, and rust and insects made an easy prey of plants that were enfeebled but not actually killed by the frost. Plant lice swarmed in the West, and more or less in the Atlantic States. Some of the yields per acre of the States of principal production are as follows: New York, 17.8; Pennsylvania, 12; Ohio, 18.5; Michigan, 25; Indiana, 16.3; Illinois, 18; Wisconsin, 28; Minnesota, 26.6; Iowa, 26.5; Missouri, 17.4; Kansas, 25; Nebraska, 21.3; California, 27.5; Oregon, 30.

Storms in northern New England during the second week in September seriously injured the crop. In the Middle States the prospect was poor from the start, from rains which prevented growth and induced rust. In one county in Pennsylvania the crop was reported the worst in thirty years. In Maryland the crop was very poor, thin on the ground, in some cases worth cutting only for forage. In Virginia and the Carolinas an approach to a failure is noted, which was practically complete as to spring oats. Fall seeded or winter oats only can be grown in the South in any year. The record of partial failure is quite uniform through the South. The oats that were threshed at all were in most cases light and chaffy. In some counties of the Northwest correspondents report a better harvest than was expected. Drought and the aphis were the prominent causes of failure throughout the West.

RYE.

The average yield of rye is 11.8 bushels. The figures are very low in the Southern States; in the West and on the Atlantic coast they are not much lower than usual.

This crop is well adapted to certain areas not suitable to wheat. There are local indications of increasing proportions, but it is a wonder that the crop cuts so small a figure, in view of the fact of the presence of so many millions of rye-eaters from Europe. It is plainly to be considered an evidence of the higher standard of living here, to which foreigners adapt themselves with wonderful celerity as they possess the means of gratifying more liberal tastes.

BARLEY.

The barley crop of the present year is somewhat under average. The yield for the country is placed at 21 bushels. The average for New York is only 16.7 bushels, and in Pennsylvania 15.5 bushels; Ohio, 19.5 bushels; Michigan, 22.3; Indiana, 16.5; Illinois, 20.3; Wisconsin, 22.7; Minnesota, 22.5; Iowa, 22.6; Missouri, 20; Kansas, 18; Nebraska, 17.3; Dakota, 19.5; California, 22.3; Oregon, 25.

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CORN.

A corn crop short in yield, but of generally fair quality, is the record of the season. When first reported upon, July 1, condition was high, but the drought of August and September was severe and widely extended in the districts of large production, and the favorable prospect was succeeded by curled blades, short growth, and deficient ears under the influence of a blazing sun, cloudless sky, and scorching winds. The rains of September were generally too late to be of material benefit, except upon late planted areas, but the present returns show that they were sufficient to prevent further deterioration of the crop in most States, and in a few, especially in the South, sufficient to damage the product, causing rotting and threatening an unusually large proportion of moldy corn.

In New England and along the Atlantic coast to Virginia, the season was late, and in many sections cold and wet, rendering the danger from frosts greater than usual. Unfavorable meteorological conditions during the season in districts of the Northwest subjected fields of that section to the same danger. Killing frosts prior to October 1, the date of the return, are, however, only reported from scattered localities in New England and northern New York, where the damage was slight, and from Minnesota and Iowa, where the visitation of low temperatures from the 12th to 15th of the month did some damage to the areas of later planting. The weather damage in the Ohio valley was confined to summer drought and excess of moisture on low lands during September, the cool nights, while retarding ripening, not developing temperature sufficiently low to bring frost.

The general average of condition, on October 1, in districts where growth still continued, and at time of harvest in the sections where the crop is made before that date, as consolidated from the local returns of county correspondents, is 70.6, practically the same as in the September report. The changes in State averages are numerous but not important.

Commercial corn practically comes from seven States, and the crop in these States determines the surplus. In other sections it is a question of local supply only, and a large yield means simply more liberal use while a poor year means a more restricted consumption and greater dependence upon the surplus States. With a good crop in these States a poor yield elsewhere will have but little influence upon the general market of the country, but a poor yield in the seven States affects prices at once without regard to the crop elsewhere. A comparison of the October condition for two years in the surplus and non-surplus States is afforded by the following compilations from the records of this office:

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Comparison of condition of crops October 1, 1889 and 1890.

States.	1889.	1890.
Ohio	88	60
Indiana	83	71
Illinois	90	72
Iowa	97	78
Missouri	96	80
Kansas	96	43
Nebraska	97	54
Average surplus States	93	66
Average non-surplus States	90	81

This analysis shows clearly the opposite characteristics of the two seasons. Last year the high conditions and heavy yields were in the States of commercial supply, the average of condition being higher than the general average for the whole crop, while for the present season the disaster has been largely confined to this district, the averages for the rest of the area indicating a yield of medium proportions.

The following statement, showing the course of condition during the season and final yield per acre for each year since 1885, will give opportunity for a study and comparison of the present season with the known results of previous years:

Year.	July.	August.	September.	October.	Yield per acre.
1885	94.0	96.0	95.0	95.0	26.5
1886	95.2	80.7	76.6	80.0	22.0
1887	97.7	80.5	72.3	72.8	20.1
1888	93.0	95.5	94.2	92.0	26.3
1889	90.3	94.8	90.9	91.7	27.0
1890	93.1	73.3	70.1	70.6	.....

BUCKWHEAT.

The condition of this crop on October 1 was high, practically the same as the September average. The general average for the whole breadth was 90.7 against 90 at the same date last year, and 79.1 in 1888. The prospect was best in the districts of largest production, the average for New York and Pennsylvania, where more than one-half of the crop is grown, being 93. The lower returns are from the trans-Mississippi States, where the crop has been injured by summer droughts. Wet weather at time of harvest damaged quality somewhat in some districts of New England, while frost did a little damage in exposed situations in some New York counties. In Iowa and Minnesota early September frosts did some harm, but as a rule the close of the season in the principal States was favorable to the crop.

POTATOES.

The season has been unfavorable for this crop from the beginning From the date of the first return of condition, July 1, through each suc-

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ceeding monthly return up to the present each average reported has been lower than ever before recorded at the same date since the organization of the crop-reporting system. The same unfavorable meteorological conditions which operated to prevent any appreciable increase of the area also served to lower condition in the early reports. Excess of moisture at time of planting and early growth served to make the July condition of this year nearly two points lower than ever before reported. During July and prior to the August return drought began to work serious injury to the crop in some of the principal western centers of production, and the decline in condition was heavy. The strong growth of vines which was induced by the excessive moisture of the early season rendered the crop particularly susceptible to damage. The September report was but a continuation of the story of disaster and upon the same lines. Up to that date the crop in New England and portions of the Middle States maintained promise of a fair yield. In those sections the season had been fairly favorable, and no serious damage from blight, rot, or insect enemies had been met with.

The present return, the last of the year, is again one of the lowest ever reported, and shows the month to have been very unfavorable in the districts which had previously maintained high averages. The consolidated average for the whole breadth is but 61.7, a decline of 4 points during the month. The Ohio valley shows slight improvement consequent upon favorable weather for harvesting, but wet weather at the close of the season has interfered with digging in the East, and rot to an unusual extent is developed, especially in New England and New Jersey. Previous promise of good yield is turned to disappointment, though good crops were secured in some localities of this section.

In the Southern States, where the crop is early harvested, the yield was one of medium abundance, and the same is true on the Pacific coast and in the irrigated districts of the Rocky Mountain region. Large shipments from Utah, Wyoming, and Colorado are being made to Eastern cities; and as the tuber seems a reasonably certain crop under the methods of agriculture practiced in those States, an increasing annual supply of this important article of food may be expected from that quarter.

The last reported condition of the season usually foreshadows closely the probable yield per acre of the crop, and for that reason the following statement, compiled from the records of this office, and showing the October condition and final product for several years, is presented:

Years.	October condition.	Yield per acre.	Years.	October condition.	Yield per acre.
		Bushels.			*Bushels.*
1883	93.0	91.0	1887	61.5	56.9
1884	88.0	85.8	1888	86.8	79.0
1885	82.0	77.2	1889	77.9	76.4
1886	81.0	73.5	1890	61.7	.....

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The very low figures of condition at harvest, with the restricted acreage of the season, indicate a supply per head of domestic production smaller than for many years.

COTTON.

The October statistical returns of the Department of Agriculture report a material decline in cotton prospects, a fall in general percentage from 85.5 to 80. The State averages are as follows: Virginia, 92; North Carolina, 91; South Carolina, 83; Georgia, 82; Florida, 81; Alabama, 80; Mississippi, 75; Louisiana, 83; Texas, 77; Arkansas, 80; Tennessee, 83.

The largest deterioration has been in Tennessee, Mississippi, Arkansas, and Louisiana, the fertile and productive bottom-lands of the Mississippi Valley. The cause is too much rain. Excess of moisture, coupled with lack of sunshine and reduced temperature, delays opening, causes immature bolls to drop and full-grown ones to rot, and induces sprouting of the seed. The same cause discolors the open cotton near the ground, and discharges the coloring matter of the bolls, staining the fiber. The value of the crop will be somewhat reduced by discoloration.

The high expectations of the early season were first reduced by early droughts, and later more seriously by more or less continuous rains, from North Carolina to eastern Texas.

In the more southern districts there is some complaint of the bollworm, with little mention of the caterpillar. The effectiveness of insecticides, when persistently applied, is frequently attested.

VIRGINIA.—*Nansemond:* Above an average. *Sussex:* Is very good but will be injured by wet weather; picking is rather backward. *Dinwiddie:* Is opening rapidly, and the promised yield is improving.

NORTH CAROLINA.—*Bertie:* Crop at least 20 per cent. below indications of August 1; the rains of that month did the damage; is being picked rapidly and will be on the market early. *Cumberland:* The crop has been very much injured by recent rains, and much is being picked in a damaged condition. *Hertford:* The rains of August seriously injured the crop; all of the middle bolls dropped and there is but little top cotton; is opening very fast and picking is progressing well, the weather being mild. *Richmond:* Weather favorable for harvesting. *Halifax:* The weather of September has been against cotton; too much rain and warm, cloudy weather have delayed picking and caused seed to sprout in the boll; sprouting of seed does no injury beyond loss of seed. *Jones:* Is nearly all open but can not be picked on account of rain. *Lenoir:* A good crop; staple better than average. *Gaston:* The weather has been very unfavorable for the past three weeks and still continues so; there are fears of damage to cotton; farmers can get no picking done. *Iredell:* The continued damp weather has caused rust and boll rot; unfavorable weather for gathering. *Carteret:* The product has exceeded the indicated yield of a month ago; the crop is a fair one and above the average for the past seven years. *Columbus:* The crop is damaged by continued rains; none picked for ten days. *Davidson:* Has been damaged by excessively wet weather, but promises to be fair if there is a dry fall. *Franklin:* Has been damaged by rains of past week. *Northampton:* Will not yield as much as once expected. *Wilson:* Nine-tenths open, and with fair weather all will be picked by November 1; the weather all through September was unfavorable

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for picking, as it rained from one to three days in each week: no top crop. *Beaufort:* Indicates more than an average yield, but the cloudy and rainy weather which has prevailed during the last three weeks and still continues is doing serious damage and greatly retards picking. *Cabarrus:* Too much rain; cotton damaged, quality poor. *Greene:* Will be an average crop; since picking has advanced to date, the crop turns out better than expected and will all be open by October 15; are having dreadful weather to house the crop, rain for five days; all cotton was made in July this season, no August cotton. *Mecklenburg:* The gathering of ripe cotton has not been possible for the past eight days on account of a wet spell, and such cotton when gathered will of course show some stain from the ground and some from the coloring matter of the outside of the boll; a great many half open bolls are rotting, and three-fourths of the cotton from the bolls not quite ripe when the wet spell came on will furnish a lint of poor fiber; the cool rainy weather has prevented the younger bolls from ripening and a good yield depends on a late fall. *Moore:* The best in ten years; a little too much rain for picking. *Perquimans:* Has been very rainy with us since August 1; picking has been much delayed and the crop is damaged. *Rowan:* Prospect not as good as it was the first of the month; too much rain. *Vance:* Five days of cloudy weather with thick mist is making it very bad for cotton. *Hyde:* Good crop; 250 pounds of lint to the acre is an average crop; some of the lands will yield 500 or 600 pounds. *Montgomery:* The recent rainfall retards maturity and picking, and the cotton where open is more or less damaged by sprouting seed and rotting of under bolls. *Pamlico:* Extreme wet and cloudy weather has materially damaged cotton; a gseat many bolls have rotted, and there is much sprouting in bolls; the weather is still cloudy. *Craven:* Is in some danger on account of rainy weather, and there are some reports of cotton-sprouting in the open boll; have had two days only in past two weeks suitable for picking, and unless weather clears soon we may not realize the given average per acre. *Pitt:* Recent rainy weather has damaged cotton to some extent; the yield per acre will probably not be diminished very much, but the quality will be seriously injured: the crop is all open and pickers are scarce. *Catawba:* Crop good, and if the weather remains as it now is, a large yield for this county is expected.

SOUTH CAROLINA.—*Laurens:* Will average tolerably well unless early frosts cut off late crop. *Orangeburg:* Too much rain for picking, is now sprouting and rotting in the fields. *Sumter:* Have had a great deal of rain which has injured cotton somewhat; drops out and sprouts in the field. *Beaufort:* It has rained, mostly showers, every twenty-four hours since September 1, and the crop is considerably damaged. *Berkeley:* Hard to estimate the loss on cotton yet, as rains have not stopped; crop in light sandy places nearly all open, exposed, and falling out, and will be of bad quality unless saved; on stiffer land is rotting badly, so believe estimate of condition (80) more likely to be above than below real condition. *Edgefield:* The whole month of September has been wet, with scarcely any good days for picking; the crop is nearly all open, and there has consequently been serious damage to quality, and a loss of at least 10 per cent. in quantity; cotton is sprouting in bolls and when picked the hulls are so rotten they come with lint. *Abbeville:* Rain began on September 3, and it has rained nineteen of the twenty-seven days since; cotton on good land has put on such a growth of weed that the sun (when it shines) can not penetrate to the first crop of bolls, and a great deal of it is now rotting. *Fairfield:* The crop has been injured considerably by rain and cloudy weather, and a great deal is rotting in the field; quality of staple injured. *Spartanburg:* Has been raining throughout the month; picking retarded and cotton rotting in the field; seeds full of sap causing it to heat in bulk; a light turnout of lint. *Anderson:* Weather very unfavorable during the month; cotton damaged by the rust has fallen off. *Chesterfield:* Are having a very disagreeable spell of weather, cloudy and rainy; cotton is rotting in boll in some instances, and sample being materially injured; a scarcity of hands for picking. *Colleton:* The bad weather is very much against cotton picking; it has rained a part of every day for fifteen days, and work is progressing slowly, some farmers not yet through with the first picking; everything at this date is at a standstill, and no prospect of

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clearing; cotton partly open is decaying in the boll for want of warm sun to cause it to open. *Richland:* There were only five fair days in month of September, and the damage to crop must be 20 to 25 per cent.; has sprouted in the boll very considerably. *Greenville:* Too much rain with cool weather; cotton rotting in the fields. *Williamsburg:* Rains have interfered very seriously with harvesting of cotton; there is a great deal open in the fields, and the quality of the staple and color will be off considerably; the crop is early and had the weather been favorable for picking fully half the yield would by this time have been secured. *Georgetown:* Too wet for cotton; picking interrupted by rains, and yield as well as quality not yet to be determined; one practical planter estimates his loss at 50 per cent. from boll worms and wet weather; another, 60 per cent. from all causes, chiefly excessive moisture, not one day of sunshine for eighteen days. *Lexington:* Falling below an average; continued rains prevent picking and rot the bolls in the fields. *Oconee:* Is seriously injured owing to unusual rain-fall of the last few weeks, and that picked is heating in bulk before ginning; large quantities of seed are rotting at the gins; still raining at this date. *Barnwell:* The recent wet spell, lasting a week, was unfavorable for cotton; a large portion of the crop is as bare of young leaves and fruit as after a killing frost. *Darlington:* Continued rainy weather has injured the yield and grade of the crop, the seed is beginning to sprout in the bolls, and where the locks have dropped on the ground the seeds have come up and the young plants are growing nicely; the cotton on the ground is not worth gathering. *Lancaster:* September has been too wet for cotton, causing sprouting in the boll to some extent.

GEORGIA.—*Baker:* Owing to the extremely variable weather of September, the late crop—which was the most promising for years—has become almost entirely a failure. *Banks:* Picking is progressing slowly on account of wet weather. *Campbell:* The unprecedented wet weather for the last two months has been injurious. The few hot days intervening with sunshine caused it to open much more early than usual, but there was not sufficient dry weather to gather it as fast as it opened, yet a larger proportion of the crop is gathered than usual at this period. *Chattahoochee:* The most difficult question to answer is the prospective yield of cotton. Many of our best farmers will make a bale to 2 acres, while it will take from 2 to 10 acres in a great many instances. Probably 30 is a safe and conservative report. Forty, if not 50, per cent. of crop has been gathered in good condition. *Haralson:* Damaged by drought and now by a storm of rain and wind. *Jefferson:* Doing badly, on account of too much damp weather; quality poor. *Harris:* One-fourth off from last report. It is opening rapidly, and all will be gathered in a few more weeks. *McIntosh:* Sea Island is the crop of this county and a very small area is planted. *Mitchell:* The weather very unfavorable for picking, excessive rains causing it to sprout in the boll; grade inferior. *Chattooga:* Not as good as at last report, owing to two dry spells followed by rainy weather for past week. *Clinch:* Badly injured by drought in August, followed by extreme wet weather which caused it to shed badly and retarded the growth of the partly grown bolls. *Dooly:* Rust, boll-worm, and the recent heavy and incessant rains have proved very destructive. *Lincoln:* County will probably average a 500-pounds bale to 3 acres, which is not usual here. More manure has been used and more thorough cultivation practiced than common. *Dodge:* Damaged at least 25 per cent. by rust and heavy rains. *Jones:* Not nearly as good as was thought—in some localities no top crop at all. *Houston:* Drought first caused shedding, then heavy and continued rains since August 1, together with rust on sandy lands, has made an unusually bad sample; red lands are taking on a heavy top crop that may counter-balance the rust on sandy lands, provided we can get it picked. *Greene:* Has improved since picking commenced and will be a fair crop. *McDuffie:* But six clear days this month and is raining now; cotton is rotting greatly in the boll, also the seed is sprouting all over the fields; it is hard to estimate the damage. *Pike:* For the last three days wind from the east has been very destructive. *Bartow:* Recent heavy rains will seriously interfere with gathering and marketing, in good condition, the crop

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of this section. *Catoosa:* A little falling off from full crop on account of decreased acreage caused by culture of small fruits, etc.; seasons for picking unfavorable, owing to frequent rains. *Bibb:* Excessive rains and wind storms have badly damaged crop in the last twelve days. *Elbert:* Has fallen off several points and the wet weather has made it very unfavorable for gathering; the present northeast gale and rain found a large amount open in the field which will be materially damaged. *Fayette:* The frequent rains are proving damaging. *Tattnall:* Rains are continuous; cotton is all sprouting in the field; more than one-half the present crop now open; farmers greatly discouraged. *Thomas:* Ruined by excessive rains; the rank growth of weeds caused the bottom crop to rot, and boll-worms and rain caused the loss of the middle crop; there is a poor prospect for a top crop; early planted makes some cotton—late planted nothing but fine weed. *Troup:* Has lost considerably from the continued effects of rust and excessive rains, the latter cause being the most damaging. *Warren:* Damaged by recent rains—rotting in the fields. *Worth:* One month's rain on it every day has produced rottenness and stench. Ruin stares us in the face. *Calhoun:* Recent heavy rains have again cut short our crop. *Hart:* It has been very wet for the past twenty days and cotton is nearly all opened. Should rain continue it will rot in the field. The worst picking season since 1885. The prospect is gloomy. *Macon:* The peculiarity of the crop in this county is that it was all matured and opened in three or four weeks, consequently the fields are still white with cotton which has been exposed to the almost continued rain storms of the past month. *Newton:* Weather was very favorable for the growth of cotton, but late heavy rains have washed out a great deal and there will be a large amount of storm cotton. It has opened more than is common at this date. *Talbot:* The month has been very unfavorable. Too much wet weather has caused rust on gray lands. Boll-worms did some damage, but the chief loss has been from rotting. *Taliaferro:* Rust is excessive. Since August 28, five days have been the longest intervals since rains. Never saw so much cotton in the field, or in a worse condition. A good deal is on the ground covered with mud and sprouted—not worth picking up. *Walker:* Damaged in places by excessive rains, causing the shedding of fruit. With a favorable fall, however, yield will be nearly an average. *Appling:* Badly damaged, first, from drought; second, from rain for the past ten days. All that is open is badly sprouted. *Clayton:* The weather for the past ten days has been very unfavorable for picking. An unusual amount is open in the field and great fears are entertained of serious damage, especially to the quality. *Dawson:* Will make a fair yield if frost holds off, as it is opening fast. With a continuance of warm weather, will nearly all be picked by October 15. *Forsyth:* Rain is doing considerable injury. If it continues much longer cotton will sprout in the field. Is earlier than usual this fall; have marketed more than ever at this date. *Gwinnett:* Will evidently be damaged several points; is hurt both in maturing, opening, and is being stained by the excessive storms prevailing now and for the past ten days. *Henry:* Is three weeks earlier than in 1889; is now sprouting in the bolls from excessive rains. *Laurens:* Is 60 per cent. as compared to a good condition, for rains have put it in a very bad shape. A few more unpleasant days will put it at 50 per cent. Although open and taking the weather it can not be gathered soon, as pickers are so few. *Madison:* That open and not picked is damaged at least 30 per cent. by late heavy and continued rains. At least one-fourth of crop was caught open by the storm, which is still unabated. Pickers scarce. *Marion:* Opened nearly all at once, and pickers are scarce, consequently an unusual amount is exposed to the storms of the past few days, which when marketed will grade very low; besides the crop will be cut off by the waste on the ground and rotting of the bolls. *Irwin:* Probably damaged 25 per cent. by too much rain. *Montgomery:* More than half open, but not more than one-half the open cotton has been picked, owing to the scarcity of pickers. The appearance of the staple has been injured by continued wet weather. *Paulding:* It is difficult to estimate cotton. Continuous rains for eight or nine days caused sprouting in the bolls. Will be classed low middling. *Whitfield:* Being damaged by continued rains for the past eight days. *Spalding:*

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Abundance of rain-fall; is sprouting in the bolls and picking is unusually slow. *Taylor:* Much rain in the last four weeks; on account of this and a scarcity of labor there is much open cotton in the fields which is badly damaged. *Walton* · Excessive rains and wind for two weeks past have greatly damaged and delayed the gathering of crop. Much is blown out and beaten into the ground. It is beginning to sprout in the boll. *Wilkes:* Much of the month has been unfavorable for gathering. There will be much damaged cotton this season—too wet. In many places it is nearly all open and fields are white. *Coweta:* Damaged by the overflow in low places; bolls are rotting and cotton is badly stained as well as falling out. *Early:* It has rained sixteen days this month a fall of nearly 9 inches; hence the picking weather has been on the whole, unfavorable; cotton has sprouted in the boll; the price has fallen off, and the gloomy weather makes the farmer feel dismal. *Glascock:* The discount is on account of rain which caused some rust and is retarding the progress in gathering; the lint will be greatly damaged. *Gordon:* Will come fully up to report. *Schley:* Crop is all opened and if we had plenty of hands would have been picked and marketed. *Jasper:* It has rained for the past ten days so much that picking has been suspended; much has fallen out and is lost, and bolls in many places are rotting; can not yet ascertain extent of damage; the quality is much injured. *Lowndes.* Has suffered from rust, rain, and boll-worm; upland cotton is off about 50 per cent; Sea Island not so badly; that open is sprouting; prospects gloomy. *Dougherty* Rust and blight attacked crop very generally the last of July and the first of August, causing it to shed leaves and young bolls; this, followed by incessant rains for the past four weeks, has caused cotton to rot and sprout, and suspended picking, badly damaging the staple. *Jackson:* A good average crop. *Washington:* The prospect is slightly better as to quantity, but the rains during September has reduced the quality. *Upson:* A long wet season is likely to damage cotton in quality and price; some claim it is now damaged by rotting in the bolls; picking has ceased for some time. *Bulloch:* September has been a month of incessant rain, retarding all farm operations and damaging cotton at least 20 per cent. *Camden:* That planted has been seriously injured by the incessant rains in September, also by caterpillars. *Colquitt:* Damaged by excessive rains; will generally make a bale of 500 pounds for each three acres planted, while some will make as high as one bale per acre. *Columbia:* Seriously injured by so much rain; is rotting in the field.

FLORIDA.—*Sumter:* Nothing but Sea Island is produced here; seasons have been favorable for late development; but little attention is given to its cultivation. *Baker:* Badly damaged from rust, but the acreage being larger, crop may possibly exceed 90 per cent. *Citrus:* A short crop planted on account of digging phosphate and lands changing hands. *Hamilton:* Farmers are complaining of short crops due to rust. *Hillsborough:* Is suffering from rust; not much sown here. *Gadsden:* Has continued to fall off since July; excessive wet weather has caused much of the matured to rot before opening. *Santa Rosa:* A very small area, but a good crop. *Monroe:* Being injured by the continued rains. *Leon:* Cut off by the rains, which caused shedding, but mainly by boll-worm, which is unusually bad. *Washington:* Owing to continued rains during July, August, and September the fruit fell off, which has damaged the crop at least 25 per cent.

ALABAMA.—*Limestone:* September has been too wet; picking is coming on more slowly than usual on that account. *Monroe:* The excessive wet weather has retarded the gathering of the crop, and a very large per cent. will be of a low grade. *Shelby:* Six weeks ago there was a bright prospect for an unusually heavy yield, but continued heavy rains have cut off the crop fully one-third; rain is falling now, and great injury is being done in beating out the cotton, staining, and preventing picking. *Walker:* In this mountain section the crop is more than usually dependent upon the weather; if the present warm and showery season continues the plant will continue growing and the fruit will not mature. *Hale:* Heavy rains have damaged cotton

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greatly, especially on bottom lands; bolls are rotting and it is sprouting in burr; badly damaged by the continuous rains of the month. *Macon:* A species of rust or blight has impaired yield to extent reported; the weather for several days has been unfavorable for picking, impairing also to some extent the quality. *Winston:* A good deal of rain has prevented picking. *Chambers:* Too much rain; bolls are rotting for lack of sunshine; boll-worm is damaging fruit, and picking is retarded. *Cherokee:* Average reduced by continued rains and cloudy weather since September 20; about 30 per cent. is gathered to date and about 10 per cent. marketed, at an average price of 9½ cents per pound. *Coffee:* Rather better than promised a month ago, but the weather is rainy and a large per cent. is now open in the field, which will be damaged if rain continues. *Russell:* Most of the crop was made in July, consequently most of it is open; a good deal of wet weather at present may cause it to sprout in the boll. *Conecuh:* Opened very early, and the great demand for pickers caused price to go up; consequently there are hundreds of bales in the fields suffering from daily rains, which will reduce price. *Barbour:* Rotting in boll; much loss on account of rain. *Franklin:* Cut short by incessant rains, causing it to rot and sprout. *Wilcox:* The wet weather has injured crop, especially on the black lands that usually make the best cotton. *Bullock:* Cut off at least one-third, and now the continuous heavy rains will cut it off still more; could not pick for two weeks, on account of rain. *St Clair:* The rains have injured cotton and retarded picking. *Montgomery:* Is turning out something better than was expected owing to the late rains having matured the top crop. *Madison:* Was injured by drought. *De Kalb:* Condition is difficult to estimate just now; the weather for the three past weeks has been unfavorable for maturing and gathering crop, also causing many of the lower bolls to rot. *Calhoun:* Cold, wet weather for last two weeks has placed crop in a critical condition by retarding maturity; all that picked or ready is more or less stained. *Elmore:* Cloudy and wet weather is damaging crop. *Lamar:* Condition is below last month, on account of damage by rain; bolls are rotting and that open is sprouting; but little has been gathered during the past fifteen days. *Dallas:* Rust has developed quite extensively, causing serious injury; no caterpillars to do any harm, but boll-worms have done considerable damage. *Washington:* About three-fourths of a crop on fertilized land; on the best land, not fertilized, not much over a half crop on account of heavy rains the latter part of July and through August and September; the boll-worm also did some damage; most of the bottom crop has rusted. *Clay:* Crop is very hard to estimate; it is continually losing from wet, damp weather; the wet causes the lint to rot in bolls just commencing to open; the crop is evidently short and the staple not up to an average. *Tallapoosa:* Is being badly damaged from excessive rains. *Jackson:* At one time the opinion prevailed that we should gather a full crop, but we shall fall short of that 25 per cent., owing to the remarkable variation of the seasons. *Marengo:* The heavy rains during the month have injured cotton much in staple and quantity, causing it to rot on bottom lands. *Cleburne:* The July crop is all we have. Rains in August caused cotton to shed its forms. *Clarke:* The prospect since July 1 to the present time has fallen off about 25 per cent. *Bibb:* No caterpillars to date, but rust in abundance. *Choctaw:* Very wet during August and September; injury to cotton can not be estimated. A very heavy second growth will cause sprouting in the boll, and the cotton is rotting badly and is bad to pick. Little gathered up to date. No worms. *Pickens:* At one time bade fair to make a fine crop; wet weather has cut it off fully one-third. *Sumter:* Was in fine condition to August 1, then rains came and cotton began to shed and rust. Boll worms did much damage. Is now suffering from heavy rains. *Butler:* Grade badly damaged by frequent and heavy rains. *Cullman:* Picking in full progress, but delayed from continuous rains, consequently staple will be off in color and a further reduction in yield threatened by souring of bolls. *Randolph:* It will probably take 4 acres, on an average, to make a 500 pound bale. *Geneva:* Largely cut off by unusually wet weather.

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MISSISSIPPI.—*Tate:* The continued and heavy rains of the past ten days have kept cotton from opening and made bolls rot on low lands and to some extent on up lands. *Carroll:* The damage to crop has been the greatest since 1853. It has rained almost continuously. Bolls are rotting in conseqence of so little sunshine. All that has been gathered has been ginned and forwarded. *Franklin:* If rain and cloudy weather continues there will not be over half a crop gathered. Boll worms have cut crop off at least 40 per cent. Farmers are gloomy. *Le Flore:* Very promising up to the 1st of July; a drought then set in causing much shedding. A little was picked September 1 but continuous rain since, with cloudy weather, has prevented gathering and caused at least one-half to rot on the stalk; some boll worms, too. *Monroe:* Can not estimate damage from rain-fall, as it still rains; will probably not exceed the crop of last year in quantity and far below in quality. Picking greatly retarded. *Neshoba:* Is difficult to estimate damage by recent heavy rains; no cotton has been picked. *Union:* Damaged at least 30 per cent. by the protracted rain. Very little picked and it is still raining. *Panola:* Materially injured by recent storms. From 103 per cent. of ten days ago it is now 90 per cent. Is rotting to an alarming extent on the uplands from half-opened bolls, while in the valley lands, where the growth is vigorous; the bolls on the lower lateral branches that rest on the ground are rotten. *Grenada:* Rains continue. Cotton is rotting after opening in many places. Picking is progressing slowly; hands are scarce. *Leake:* Has fallen off about twenty points. It is probable that 55 is a maximum estimate for the season. Rain, rust, boll worms, and rot have done the work in the past month. *Washington:* This, above any other season, should be dry in the cotton belt, but it has rained throughout the month three or four times per week; cotton is rotting worse than ever before known. *Webster:* Short about one-half from the prospect of August 1. Rain through this month has damaged crop. Farmers have the blues. *Attala:* Crop up to 1st of August was never better, but the continued rain through August and September, together with rust, rot, and a good supply of boll-worms has damaged it at least 40 per cent. *Jones:* Far below what was expected, on account of too much rain and boll-worm. *Chickasaw:* Materially damaged by a rainy, cloudy September; is sprouting and rotting where the boll is cracked or partly open, and half grown bolls are dropping off. *Amite:* Condition good; yield per acre about one-third bale and about seven-eighths of a full crop. *Benton:* September has been an unusually wet month, and for the past two weeks it has rained nearly every day, causing cotton to fall extensively; that on the ground is ruined and that standing up is sprouting; the future alone can disclose the situation. *Claiborne:* Seriously damaged by continuous rain for the past ten days; has probably fallen off ten points, and unless we have a very favorable picking season and late frosts, the average will be considerably reduced. *Jefferson:* Sadly deteriorated since last report; rain has almost ruined it in some sections; there seems to have been a blight on cotton since August 1, and the weather to-day is cold and rainy; no top crop this season. *Lawrence:* Shortened very much by boll-worm, rain and damp weather. *Marshall:* A falling off of at least twenty points since August 15; causes, too much rain, scorching sun, and very cool nights, boll-worm, and some rust; since September 15, a continuation of rain has given only a few days for gathering; low grades may be looked for from this section. *Newton:* On account of continued rains for the last two weeks cotton has been much injured and gathering retarded; it is sprouting in the boll and the outlook is gloomy. *Rankin:* The last month has been cold and rainy, bad for gathering crop. *Scott:* Owing to the boll-worm in July and August, and heavy rains through September, crop is cut off 30 per cent. *Tunica:* But two days in the last seventeen for picking, and it is still raining; is open and sprouting in the boll. *Sharkey:* Too much rain has retarded picking and caused cotton to rot and sprout in the boll. Should existing conditions continue damage will be very serious. A loss of five points at least up to this time sustained. *De Soto:* October 1 opens upon a very discouraging prospect. Constant and abundant rains since September 15 causes

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great waste from that which had opened, and rotting of that which opens in the wet *Lee:* Depreciating at the rate of five points per week, on account of excessive wet weather. *Yalobusha:* The weather for several days has been very injurious. The bolls not opened are rotting, on account of excess of moisture with little sunshine; the seed in those already opened is sprouting; the outlook is gloomy. *Alcorn:* Incessant rains have materially damaged crop. Much of that open has been beaten out and the seed is growing. Picking delayed. *Copiah:* Rains have been too frequent, causing rot on all low lands. *Lowndes:* Greatly damaged by wet weather. *Madison:* Rotting and sprouting in the boll on account of continuous rain. *Oktibbeha:* Has rotted and sprouted in the bolls; no middle or top crop of consequence. It is next to impossible to approximately estimate the damage. *Pontotoc:* Seed in the open bolls is sprouting and many of the unop en bolls are rotting. Rank growth and heavy foliage is doing injury by shading and causing plant to open slowly. Farmers and merchants alike gloomy. *Holmes:* The remarkably damp, wet weather has greatly damaged quality and yield. *Lincoln:* Crop will be about as great as last year; the acreage is greater and growth is fair, but vitality is low compared with last year. Average yield will be about one bale to three acres. *Winston:* It has rained excessively since last report and cotton is rotting in the field; very little can be picked up to this date. *Sunflower:* Rotting from a new disease. Rains in latter part of August and September have made the prospect gloomy. *Calhoun:* First boll-worm, and now too much rain; the result will be a short crop. *Hancock:* Is being damaged some by too much rain. *Hinds:* Has fallen several points. The continued wet weather has greatly damaged the grown bolls before opening. The lint has been stained, thereby lessening the market value. *Issaquena:* The weather for three weeks has been very unfavorable. Excess of rain has ruined the prospect for one of the best crops in years. The plant has thrown off more than it now contains. *Noxubee:* Picking much retarded by rains. The cotton on low lands has attained a wonderful growth; the middle and top crop of same destroyed by boll-worm, and the bottom bolls are now rotting from rain, which has been continuous for six weeks. *Choctaw:* Being injured by continuous rain-fall; is sprouting in the bolls and running to weed.

LOUISIANA.—*Franklin:* Has lost by shedding, rot, and rust; it is opening rapidly, and where convenient is ginned and shipped as fast as gathered. *Rapides:* The outlook is good, though there has been some decline in condition since last month; in the lowlands the product will be generally large; in the uplands there is complaint of loss by shedding, from lack of moisture at the proper time. *Lincoln:* Badly damaged by constant rain during month; too wet to gather crop. *Natchitoches:* Much injured by excessive rains; it will require the remainder of the picking season to be dry to bring us up to 85 per cent. of last year's crop. *Pointe Coupée:* Much cotton was planted in June, owing to overflow; none of that yet picked; with a late fall half a crop will be made, and in a few instances three-fourths of a crop. *Richland:* The present cold wet spell will greatly reduce the crop, as it is generally late and the cotton is already sprouted. *St. Martin:* Condition reduced 5 points; the boll-worm has been quite destructive. *Caddo:* Owing to severe drought in July and August cotton opened rapidly; 40 per cent. of crop has been gathered, but rains for the past fifteen days have considerably interfered with picking. *Iberia:* Has been injured by too much rain, but the weather for the last week has been more favorable; crop will yield from 25 to 30 per cent. more than last year. *Cameron:* Too much rain since July, causing loss of bottom and middle crop, has materially injured the outlook for a full crop. *Bienville:* Rainy bad weather for the past fifteen or twenty days caused cotton to rot. *De Soto:* No rain except partial showers for nine weeks; not more than half a crop will be made. *East Feliciana:* Crop will be much shorter than last year, though heavy in some places owing to good rains in July and August. *East Carroll:* Has fallen off a little on account of excessive rains this month. *St. Tammany:* Condition good, as we have had a week's good weather; it will take 3 acres to make a bale of cotton 450 weight. *Tangipahoa:* On uplands will be opened and

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probably picked by end of October; the past three weeks have been unfavorable, rainy, cloudy, and cool; 60° at 7 a. m. for the past week. *Claiborne:* Too much rain; is rotting in field, and that picked is in bad condition. *Morehouse:* That opened will be stained; too much rain. *Ouachita:* Serious injury from storms and continued wet weather during September; is hard to estimate extent of damage. *Tensas:* Rot has caused very serious damage; at least one-third that planted after water looks very fine, but the rot has extended to this and planters are quite blue; the cause of rot is the all-absorbing theme; evidently it is caused by wet season, sap in plant, etc.; some claim it is caused by an insect; this is probably not true; the boll-worm has done its share in injury to crop. *Vernon:* Quality is injured by continued rains in September; average yield per acre about one-third of a bale. *Catahoula:* Is on the down grade both in quality and quantity.

TEXAS.—*Newton:* The continued rain through September causes the low condition. *Bexar:* Good weather for picking; will be nearly all gathered in two weeks. *Clay:* The caterpillar is eating the top crop. *Fisher:* Plenty of rain in last month. Cotton has not improved as was expected; has grown in weed, but not fruited. *Grayson:* The drought of June, July, and August injured crop but we will make as much as we did last year by increased acreage. There is not more than half a full crop. *Henderson:* Heavy rains in September have damaged crop considerably. Picking much in advance of former years. *Lamar:* Being damaged by wet weather. Pickers are unusually scarce and prices very high; are paying 75 to 80 cents per hundred for picking. *Panola:* Some top crop; recent rains have retarded picking and made lint sandy. *Robertson:* Will hardly average one bale to three acres planted. *Rockwall:* Will be the best crop in five years. *Shackelford:* Will make a bale per acre if frost does not strike it for three weeks. *Coleman:* Is now loaded with half-grown bolls and squares, but it is evident that the top crop will not have time to mature. *Comal:* Worms have stripped the cotton from leaves and young bolls and no top crop will be made. *Denton:* Rains have come in torrents, but too late to do any good. Cotton is about all sold and at lower figures than last year. *Freestone:* Yield is some better than was thought before picking. The weather has been favorable, so that but little was damaged in the field. *Haskell:* Rains the first days of September have been beneficial. *Hill:* Yielding better than was expected. *Hunt:* Held out in spite of the drought of June and July; the crop will turn out much better than expected when gathering commenced. *Leon:* Being gathered very rapidly. Worms have eaten off foliage, consequently will soon all be opened. Late cotton has been seriously damaged by caterpillars. *Limestone:* Better than expected; is being picked very rapidly. *Live Oak:* Drought still continues; but little top crop will be made, whether late or early frost. *Caldwell:* Will make about half as much as last year; the worms cleaned up top crop. *Marion:* Continued rains are injuring crop. *Morris:* Is hard to estimate; the southern half of county is almost a failure; the northern half is 15 per cent. better than last year; all cotton picked out up to the 25th is clear of sand; the rest will be sandy. *Waller:* Has done well; with the increased acreage will bring to market more bales than last year; efforts have been made to destroy the worm and with decided success; where not used cotton has been eaten by worms. *Callahan:* Suffered for rain in August, but present weather secures a fine late growth. *Grimes:* It has been an "off year" all the season for cotton; cool and wet spring, too much rain; then too dry, with continuous showers when it began to open, and the entire top crop will be eaten by worms by October 1. *Kaufman:* Promised well the first part of season, but was cut short by continued drought. *Houston:* Has been injured some since last report by rust, lice, and worms. *Scurry:* The drought last summer cut the crop somewhat short. *Rains:* Heavy rains from September 22 to 25, checked picking and damaged quality of lint. *Austin:* Generally in good condition; rains for the past three weeks have caused some to rot. *Guadalupe:* Rains came too late for top crop, and worms are everywhere. *Wharton:* The damp weather of August continued up to September 20 and caused much rotting of bolls and shedding of forms,

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and blooms. The boll-worm has done injury in places; the leaf-worm was checked generally up to September 1; since that time a considerable area was stripped of leaf and young boll. *Cameron:* Upland cotton suffered from long-continued drought; sea island withstood the dry weather better than upland and promises to yield 340 pounds lint per acre. *Montgomery:* Not as good as supposed six weeks ago, owing to the fact that showery weather wet the foliage, but was not sufficient to affect the roots; this, followed by a scorching sun, caused rust more destructive than ever before witnessed. *Jasper:* Cut off about 30 per cent. since my last report. First we had a two-weeks rain, followed by very dry, hot weather which caused shedding and rust. Since picking commenced we have had another wet spell, causing rank cotton and sprouting in the boll. Another week's rain will reduce it to 70 per cent. *Mason:* Weather for picking favorable; will be gathered by October 15; lint first rate and free from trash. Cotton-worm appeared and leaves no hope for a top crop. *Navarro:* Will perhaps be a half crop with favorable weather for gathering. But little has been done during September, it has been so wet. *Parker:* Picking is ten days earlier this fall, on account of drought. *Red River:* Damp and showery weather through September has damaged cotton, especially on heavy land. *Wise:* Improved about ten points since last month; good indications for a top crop; with plenty of dry weather and a late frost improvement may yet be expected. *Young:* Cut short nearly one-half by drought in June and July. *Upshur:* The past two weeks have been wet; but little cotton gathered in that time; the damage is hard to estimate. *Williamson:* Falls much short of August expectations. *Matagorda:* Excessive rains and worms have cut crop short. There is a scarcity of pickers; all of which indicates that not over half a crop can be saved. *Medina:* With fair weather for about two weeks longer an average top crop will be made. Picking is not yet finished. *Orange:* No cotton-worms. *Bastrop:* Has done somewhat better than was expected; the lint is good and clean. About two-thirds is picked and being now marketed. *Baylor:* Season unusually dry since June 20. A rain September 14 helped cotton some. *Brown:* Growing very rapidly; if frost holds off a month longer there will be a fine crop. Rust is hurting the sample in some localities. *Cass:* Rains nearly every day since September 6 has caused bottom-land cotton to rust and rot, making a low grade of all that was open. Put the yield at one-fourth bale per acre, but most farmers think it too high. *McCulloch:* While condition of plant is above average, the late growth will not mature before frost, hence the small yield; season fine for gathering; crop will be picked by October 20. *McMullen:* The drought beginning the first week in June still continues; the plant, which has great tenacity of life, is still growing and forming squares, but it is not thought the top crop will mature before frost. *Runnels:* Will have an average yield per acre, with 50 per cent. increase in area. *San Augustine:* Prospects have fallen off greatly since last report; cause, too much rain and boll-worm; not more than three or four days together without rain since July 15. *Titus:* Is still improving; we have a good prospect for a light top crop. *Van Zandt:* The leaf-worm is reported at work in some localities; cotton opened unusually early, caused by drought, and pickers have been active until delayed by the last two weeks' continued rains. *Frio:* In fine condition; no worms; the average yield will be three-fourths of a bale per acre. *Taylor:* Is being rapidly gathered; staple short; crop light, owing to drought in summer.

ARKANSAS.—*Stone:* The rains of the past two weeks have greatly changed the outlook; a great deal has been blown down; bolls rotting and some sprouting. *Monroe:* We are having a great deal of rain, which is damaging the cotton crop; we also have the boll rot; can't estimate damage as yet; in some fields 10 per cent. will not cover the damage. *Marion:* Prospects have been good, but incessant rains for the last eight days have caused excessive growth of weed, with sprouting of open cotton and souring of that ready to open; low lands are overflowed, which will materially affect the yield; some complaint of boll-worm in places. *Fulton:* Recent rains have very seriously affected the crop. *Crittenden:* Up to the 21st instant cotton was over

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an average, but since that date have had continuous heavy rains; it is hard to tell the result; bolls are rotting fast at present. *Cleveland:* Nearer a failure than I ever knew; since rains have set in it has taken the second growth; the lint is dark and trashy. *Calhoun:* The shortest crop ever raised in county. *Baxter:* Too much rain at this time for cotton. *Columbia:* Rainy weather for ten days, hence cotton is badly damaged; it is now cool and cloudy, which will be a benefit; the grade of cotton is very low; picking has been nearly suspended. *Scott:* Boll-worms have done some damage, which may continue until the prospective yield shall be reduced. *Phillips:* It is difficult to form an estimate; continued rains for two weeks past and at present have caused it to rot greatly; a black speck appears on the boll causing it and the cotton within to turn black; besides much has grown very rank and is rotting from being shaded. *St. Francis:* It is mere guesswork to estimate the condition of cotton; the crop is the most spotted for years; rust is quite prevalent; eight or ten days' rain has caused that on the ground to rot and the seeds are sprouting in the bolls. *Clay:* Recent rain-fall is likely to damage crop greatly. *Craighead:* The prospect for a full crop was never better, but if we do not have clear weather soon it will rot, there being such a weed. *Crawford:* Continued rains are retarding picking; should they continue will do some damage. *Cross:* Will be considerably damaged by incessant rains. *Grant:* Present crop is difficult to estimate; first excessive rain, then severe drought, and now continued rains for sixteen to twenty days has materially injured cotton already opened. *Greene:* Too much rain; is sprouting in the boll and people can not pick. *La Fayette:* A very short crop; too wet since September 10 and very little weather for picking; some is sprouting in the bolls and rotting on the stalk. *Perry:* Looking fine; no worms; picking generally commenced the 15th. *Poinsett:* Is fine; with favorable weather more will be made than can be gathered. *Saline:* Has fallen off since last report. The last days of August and first of September were very hot and dry, while nights were very cool, causing it to shed not only forms, but a great many half-grown bolls; a great deal of rain is damaging that now open. *Hot Spring:* Damaged by recent rain. *Lee:* Too much rain in September; crop rotting. *Prairie:* Sprouting and rotting from excessive wet weather. *White:* Injured by excessive rains; picking is being retarded. *Clark:* The month unfavorable for cotton; some is sprouting in the bolls and rotting. *Drew:* In bad shape on account of rain; on low lands bolls are rotting and in open bolls seeds are sprouting; will be late in gathering if no change comes soon. *Faulkner:* Cut off some since last report on account of much rain and cloudy weather. *Franklin:* The outlook is anything but flattering; cotton has been much injured in the past month by excess of rain and little sunshine; the stalk has grown too much and that which has opened is rotting in the boll. *Izard:* Greatly damaged by very wet weather. *Little River:* Probably damaged 5 per cent. by rains, which have caused a heavy second growth, rotting of the bolls, and sprouting of that already open; farmers are gathering as fast as weather will permit. *Randolph:* Opened cotton rotting in the boll. *Woodruff:* Badly injured by rains in September. *Sevier:* If the weather continues wet, as it threatens, there will be further loss in the prospective yield. *Arkansas:* Excessive rain-fall has materially injured crop, causing it to rot and the seed to rot in the boll; it is hard to estimate damage. *Ashley:* Has gained 10 points, and would have been 110 as compared with year, but owing to so much rain of late the bottom crop is damaged materially, much sprouting in the bolls; if October is dry next report will be more favorable. *Carroll:* Is losing ground, on account of excessive rain-fall in September. *Hempstead:* Cloudy, rainy weather for more than two weeks, and but one day in that time suitable for picking. *Jefferson:* The growth is now too rapid, making too much weed and injuring the already formed fruit; from continued rain there is complaint of cotton sprouting in the boll; no complaint of worms. *Lawrence:* Materially injured by continued rains for the past three weeks; is sprouting and rotting. *Mississippi:* Owing to continued rains cotton is rotting and falling off the stalk; it is not

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confined to the bottom bolls but those half-way up the stalk are affected; a few more days like last week and we can not count on more than one-half a bale to the acre. *Yell:* Continuous rains cause some grave apprehensions and some real damage; outlook favorable if clear sunshine follows for ensuing two or three weeks. *Montgomery:* Somewhat damaged by rainy weather for past three weeks, but should October be dry it will open out all right. *Pope:* Cotton on certain lands is good; on sandy land not over a half crop; should the wet weather continue crop will be badly damaged. *Pike:* Picking somewhat retarded on account of rain. *Polk:* Rotting in the boll: picking is progressing slowly, for it is raining almost every day.

TENNESSEE.—*Polk:* Picking has been retarded on account of so much rain for past two weeks. If rain continues a great deal of the bottom crop will be ruined. *Shelby:* A falling off of at least 20 per cent. consequent upon continued late rains. The bottom fruit is rotting and seed is sprouting in the bolls. *Lawrence:* Greatly improved, and with late frost will make an average crop; slightly injured during September by excessive rains. *McMinn:* The wet weather is unfavorable, but should it clear up soon and frost hold off the crop will be good. *McNairy:* Much damaged by continued wet weather; can hardly give a fair estimate of injury. *Tipton:* The first half of September was unusually wet, causing cotton to grow weedy and open but little on high, dry ground. At this date all open cotton and cracked bolls have sprouted and rotted, so that the outlook is almost hopeless. *Benton:* If frost will stay off two weeks longer cotton will make a full crop, if not it will be as last year, not more than one-fourth of a crop. *Madison:* Prospect greatly impaired by continued rains for past two weeks; is rotting in the boll. An entire cessation from picking for two weeks. *Maury:* Is suffering much from wet weather, the plant having too much growth, and an early freeze would result as last year in a very small yield. *Haywood:* Excessive rains have damaged cotton, causing it to rot and sprout. *Decatur:* Rainy weather for several days has damaged crop to some extent. It will take upon an average about 3 acres to make a bale. Some will make a fair yield. *Williamson:* Good. *Gibson:* Seriously damaged from excessive cloudiness and rain-fall. Growth has been very rank and weedy. There is general complaint of rust and rotting bolls. Picking season is delayed a month and is limited to upland cotton. Can not exceed a third of a bale to the acre. *Lauderdale:* Fruited well, but too much rain the past month has prevented its maturing well. Some complaint of the lower crop rotting. The yield is greatly dependent on the weather from now on. *Bedford:* Is unusually difficult to estimate crop just now. The possibilities are for a full yield, should it stop raining and we have no freeze for a month; but cotton is late, and much of it in a condition to be ruined by a freeze as early as we had in 1889. *Carroll:* Too much rain is causing second growth. The top of the cotton is green and sappy, and the bolls are rotting. If we do not soon have dry weather crop will be very much damaged. *Hardin:* Is being damaged by rains which have prevailed for two weeks. *Dyer:* Is very much damaged by the continuous rains of the past two weeks; bolls are rotting. *Fayette:* Excessive and continuous rains and much cloudy weather for the past three weeks have greatly aggravated the disease (fungus) which has attacked the grown cotton bolls and damaged the crop about 20 per cent. *Hardeman:* Fruited well in July. In August too much rain, consequently not much August crop. Further damaged by recent rains. *Wayne:* Two weeks of rainy weather has been of great injury.

MISSOURI.—*Oregon:* Bolled well, but was a little late opening. *Pemiscot:* Heavily bolled; too much rain; plant is still growing but bolls not maturing; would be a full crop with dry weather and no frost until October 15.

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NOTES FROM REPORTS OF STATE AGENTS.

MAINE.

The month of September has been one of the most unfavorable of the whole year for agriculture, on account of excessively wet weather. The first week of the month was pleasant and favorable, but from the 9th to the 18th it rained almost constantly, there being only a portion of two days that was pleasant. September 20 to 21 was fair, but after that there were many rainy days to the end of the month. During this period the regular grain harvest occurs. Much was cut and remained in the fields for a period of three weeks, and, as a consequence, was either entirely destroyed or greatly injured. The injury to wheat, oats, barley, and beans has been great, and it brings down quality and condition on October 1 lower than it has been known for years. Frost in most places did not occur till September 24, consequently the sweet corn crop, which is one of much value, and was well out of the way of frost at this date, was uninjured, although harvesting soon ceased, as the corn is worthless for packing if it remains in the field forty-eight hours after frost occurs. The low condition of potatoes is due to the prevalence of rot. In Aroostook County correspondents report them rotting badly where stable manure was used, but not rotting where superphosphates and potato fertilizers were used.

NEW HAMPSHIRE.

Correspondents report that notwithstanding rust early in the season, the grain crop is for the most part good. The oat crop, however, is light and the quality poor. The same may be said of barley with reference to quality. Corn, although late, is good; in some sections the best for years. Only a small amount is reported as damaged by frost. The potato yield is very large, but destructive rot is reported from every county. In some sections half the crop will be lost, while a few localities, notably northern Coos, have as yet escaped. Potatoes are selling in Coos County at from 25 to 40 cents per bushel. The apple crop is unusually small.

VERMONT.

Frost has held off so late that corn is fairly matured. Oats and other grain have been greatly damaged by wet weather in harvesting, which caused sprouting. Potatoes, which promised a most excellent crop, have been injured by rot—in some counties to a considerable extent. The apple crop has also been further injured by wet weather, causing mildew on the fruit.

CONNECTICUT.

There is some complaint of buckwheat sprouting in the stack from the warm wet weather, somewhat reducing the condition from the fine promise of one month ago. The growth of corn is heavy and secure from frost. Sweet-corn, for seed, has suffered some from mould. The potato-rot seems to have ceased and the yields varied from very large sound crops to those hardly worth the digging.

NEW YORK.

The yield of grain varies very much per acre, but it is generally lighter than a full average on account of the shrunken quality of the grains and the wet weather during harvest. Oats are more plump than last year, but the yield per acre is less. The same is true of barley. Many late sown fields were exceedingly poor, some acres yielding comparatively nothing. Corn as a rule is not well filled out on the tips. Much of it was late in maturing and some fields were caught in a green state by the

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frosts of September 24 and 28, which were the first to kill the crops. Buckwheat was matured sufficiently to escape. Early potatoes were out of the way and matured with very little rot. At this time the late potatoes were mostly green and healthy, but heavy rains beginning September 11, flooding the whole country and covering many growing crops, caused the potato vines to blight and the tubers to rot badly. For some time the ground was too wet for digging. This general rot has reduced the condition of potatoes. It is impossible now to tell the extent of the damage, but it is serious.

Hops and tobacco were gathered before the rains. Beans suffered badly, as quite a portion of the crop was pulled and stacked, and the beans cracked and sprouted. On wet land, while still growing, they rusted and turned black.

The sowing of winter grain has been retarded by the excessive wet, but the same condition has produced a fine growth of aftermath in meadows and plenty of pasture.

PENNSYLVANIA.

Wheat is not yielding as well as was anticipated; many grains are small. Oats on threshing shows a lower yield than reported last month, with the quality much below the standard. Barley is in similar condition. Corn shows some reduction, notwithstanding that in most parts of the State the frosts have not been as early as usual, allowing most of the late planting to ripen. Many of the potatoes are not yet out of the ground, but rot is reported in most of the counties, some reporting one-third to one-half rotten. Early digging does not seem to have saved them from rotting.

VIRGINIA.

Corn has improved since the September report owing to the beneficial effect of rains on the late crop. Fallowing for wheat is but fairly under way and the indications are that seeding will be late.

NORTH CAROLINA.

The wheat crop was the poorest ever known in the State. Rye, oats, and barley were also very short, but corn made the best average for many years. There is a full crop of tobacco of good quality, the color of the leaf (bright yellow) averaging better than ever before. Cotton, which promised better than for many years, suffered from too much rain in August and September, although a good yield will be picked. Although two weeks earlier than usual much remains in the field, and in some instances is reported as sprouting in the bolls. Sorghum is being grown more extensively than ever before, and the yield is good. Where the process is understood a good molasses is being made. Hops are grown in almost every county in the State, but only for home consumption. The roots never die in winter, and the increase is remarkable. From the little care needed in its cultivation it may yet be a profitable crop.

GEORGIA.

September, usually a dry, warm month, was very cloudy, misty, and wet, and consequently exceedingly unfavorable for cotton. A very large percentage of the crop was caught open in the fields by the bad weather, which set in about the 24th of September, and little picking has been done in ten days. Reports of cotton sprouting in the bolls are common from southwest Georgia. The damage will consist in the loss—total or partial—of bolls that had just opened or were about to open. The effect of continued damp, cloudy weather on such bolls is to prevent them from opening well and to cause the fiber to lose its elasticity, as well as greatly impairing its strength. There will be very little *late* cotton, the wet weather of August having caused most of the unmatured bolls to drop within a few days after blooming.

The unfavorable weather has also seriously affected matured corn.

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MISSISSIPPI.

Corn was badly injured by drought in the summer and an excess of rain in September. Cotton, during the summer, was very promising, but heavy and continuous rains during September have caused the bolls to rot, sprout, and rust, and the boll-worm has done much damage.

The yields of potatoes, both sweet and Irish, also of sorghum and sugar-cane, are far above an average.

LOUISIANA.

Oats when harvested were somewhat lighter than usual, owing chiefly to cold weather in the early spring. The average quality of the grain, however, was fully medium, though the yield was small. The corn crop has been mostly gathered and housed. In yield and quality it is a few points less than was anticipated, owing to damage from rain. Potatoes, both Irish and sweet, are in excellent condition, promising a full yield.

The improvement in sugar-cane still continues. Reports from all sections are that the present crop excels any grown in Louisiana for many years. Grinding has already commenced in a small way, the product being made into sirup, which is now in demand at remunerative prices. The general harvest of the cane crop will begin in the northern portion of the sugar-producing districts about October 15 and in the southern part about November 1.

Cotton has suffered severely from a superabundance of rain. The picking during the latter part of August and early portion of September was of a high grade, but later was somewhat inferior. There are general complaints of rust, rotted bolls, and shedding. The boll-worm, too, has been unusually prevalent everywhere, and although coming later than usual, seems to have caused great damage.

Rice received considerable injury from the rains, which interfered with harvest operations. Correspondents report a falling off in quality and a heavy reduction in quantity. The late or second hay crop is being secured in fine condition.

ARKANSAS.

For three weeks previous to September 29 excessive and continuous rains fell throughout the State, which in many localities resulted in serious damage to most farm crops, more especially to cotton and to corn, which was in shock or had been blown down by heavy wind and rain storms.

There is some improvement reported as to the quality of wheat, oats, and rye since the threshing season has closed. Of corn, the best estimate as regards yield is something over a half crop, while the quality is rated at about two-thirds of that of the average of former years. Late Irish potatoes are inferior in quality, while the yield will be about one-half of a full crop. Sweet potatoes in yield and condition are about up to the average. Sorghum is also about an average crop, and the yield of sirup will compare favorably with that of former years. Tobacco maintains its heretofore favorable condition.

Cotton was beginning to open nicely and picking had commenced, with an outlook for nearly a full crop, when the rains commenced and the work was suspended. In consequence of this unexpected drawback this crop has lost several points in condition when compared with that of the month previous. Frequent mention is made of the presence of boll-worms, but not in formidable numbers in any particular locality. The most serious feature of the cotton crop is the extent of the injury to the cotton bolls, which were beginning to open twenty days ago, as a large percentage of these have been so thoroughly saturated with moisture that they may not open, but rot and drop off. Then again the bolls of the "under crop," first fruitage, which as a rule were large and fine and which were open and remained ungathered for two

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weeks, have either shed their lint or that which remains is so badly soiled that the grade will be merely nominal. The "top crop," or late fruitage, is promising.

KENTUCKY.

The August and September rains have materially advanced the condition of corn, tobacco, sorghum, and sweet and late Irish potatoes, but have retarded the maturing of corn and tobacco. The warm, sultry weather has caused a great deal of house burn in tobacco. This crop is two weeks late and badly worm-eaten.

OHIO.

Notwithstanding the very general reports of correspondents that wheat was not threshing out as well as was expected, the reports from threshers show a high product per acre compared with percentage estimates heretofore made. The acreage plowed up this spring will materially reduce the product of the State.

Rains during the latter part of the season had a favorable effect on corn, tobacco, and the late potatoes, though corn and potatoes are decidedly short crops. In many parts of the State the oat crop was almost a total failure. Hundreds of acres were not harvested. For the State the product per acre was about half a crop.

MICHIGAN.

The yield of wheat as threshing progressed has surprised people generally. Counties reporting a very low average condition early in the season, now report yields of 8, 10, and 12 bushels per acre, and those reporting fair and good condition at that time now report yields, some as high as 20 and 21 bushels per acre. The quality is universally good except that raised upon corn stubbles and low, wet grounds, which reduces the average about 9 points. The price being quite satisfactory at the local mills and elevators, the crop since the finishing of seeding is being marketed very freely.

The corn crop is in shock and in good condition. The very favorable weather during the entire month of September brought forward and matured the late corn and potatoes, and there is an improvement of six points in condition of corn and a slight improvement in condition of potatoes. Except in a few favored localities on a low and heavy ground, potatoes were too much dried up by the long-continued droughts to receive much benefit.

INDIANA.

The average yield per acre of wheat is the lowest in many years, and the same is true of oats and of their quality. Corn is well matured and uninjured by frost. There were general rains during September, and as a result the pastures were never better at this season of the year.

ILLINOIS.

The rains during the last week in August and early in September greatly benefited late corn and sorghum, advancing their condition about five points as compared with last report. No injury to these crops from frost is reported. There is very little change in the condition of Irish potatoes since September 1.

WISCONSIN.

But little wheat has been threshed as yet. Damage from weevil, blight and rust, is reported. Oats lodged before filling on account of rank growth, consequently are of light weight. The weather conditions have been favorable for securing the barley

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crop, and the berry is generally of good color. Buckwheat is well filled and generally good. The potato crop is not only light, but the rot is doing much damage to the late varieties on low, wet ground. The tobacco crop was secured in good condition.

MINNESOTA.

Farmers are in the midst of threshing out their grain from the stack. Neither the general average of the yield of wheat nor the grade is as high as last season's crop, while rye excels in both. Oats are hardly up to the average. Barley is a good crop. Early frosts in many portions of the State injured buckwheat. Corn falls below the average, as does also potatoes, but the quality of the latter is excellent.

IOWA.

Grain is nearly all threshed and in good condition. Corn is drying out well. The quite general frost of September 12 will make considerable soft, unmerchantable corn—at least 5 per cent. of the entire crop. The buckwheat crop was injured by early frost, and the sorghum season was cut short. Frequent rains have been favorable for fall ploughing.

MISSOURI.

The final estimate of the wheat crop shows that the yield per acre is larger than was anticipated earlier in the season. The grain is of a quality rarely equaled in the State, though somewhat mixed with chess, which reduces the grade a few points. Oats made a poor crop both as to yield per acre and quality of grain. Ravages of the Texas oat-louse, in the southeastern half of the State, was the principal cause of the failure, although the crop was poor throughout the State.

Corn continued to improve under favorable climatic conditions until maturity. A frost on the 13th ultimo, in the northern part of the State, injured the fodder somewhat, but the grain was, as a rule, sufficiently matured to escape injury. Irish potatoes are a very short crop, although the late planting is much better than the early crop.

KANSAS.

The quality of wheat averages nearly a high medium grade, being the same whether of large or small yields. Oats and rye are also reported of superior quality throughout the State. The condition of the corn crop has not changed since the last report. There has been no improvement in the condition of the potato crop and the average is about the same as last month. Irish potatoes very poor; sweet potatoes but little more than one-half crop.

SOUTH DAKOTA.

Wheat is more or less shrunken, reducing the weight and lowering the grade. Oats are generally light weight, and barley below the standard for malting, being shrunken and in many cases badly colored. It will be mostly used for feeding purposes. Corn planted early and thoroughly worked is well ripened, but the ears are small. Potatoes are of good quality, though small and the yield light.

The dry weather and hot south winds during the last half of July, August, and September have materially injured all grain crops, both as to quantity and quality. The rain-fall for the whole season has been sufficient to make good crops had it been well distributed. During the last half of July there was too much moisture. Since then, with the exception of local showers, no rain has fallen. The drought still continues making fall plowing difficult.

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Table showing average yield and condition of crops October 1, 1890.

States and Territories.	Wheat.—Average yield per acre in 1890, stated in bushels.	Rye.—Average yield per acre in 1890, stated in bushels.	Oats.—Average yield per acre in 1890, stated in bushels.	Barley.—Average yield per acre in 1890, stated in bushels.	Buckwheat.—Average condition October 1.	Corn.—Average condition October 1.	Potatoes (*Solanum tuberosum.*)—Average condition October 1.	Potatoes.—(*Batatas edulis*), sweet.—Average condition October 1.	Tobacco.—Average condition October 1.	Sorghum.—Average condition October 1.	Sugar-cane, not sorghum.—Average condition October 1.	Cotton.—Average condition October 1.	Hops.—Product compared with a full crop.	Hops.—Yield per acre in pounds.	Hops.—Average quality compared with high medium grade.
Maine	13.5	11.8	27.0	20.0	8	87	74	.....	....	....	.....	....	.....	.....	.....
New Hampshire	15.3	12.5	25.5	20.0	87	91	75	.....	....	....	.....	....	.....	.....	.....
Vermont	17.2	12.9	26.2	22.5	86	82	87	.....	....	....	.....	....	25	500	80
Massachusetts	.....	13.5	23.2	22.0	89	91	72	.....	98	....	.....	....	.....	.....	.....
Rhode Island	.....	13.7	22.0	21.7	.....	95	90	.....	....	....	.....	....	.....	.....	.....
Connecticut	16.1	12.2	19.5	.....	92	93	72	.....	92	....	.....	....	.....	.....	.....
New York	15.2	12.3	17.8	16.7	93	80	67	.....	85	....	.....	....	65	480	86
New Jersey	12.1	11.3	16.5	15.5	95	97	81	95	....	....	.....	....	.....	.....	.....
Pennsylvania	12.0	12.2	17.2	.....	93	83	74	92	94	87	.....	....	.....	200	95
Delaware	9.7	8.0	14.0	.....	.....	85	90	95	....	100	.....	....	.....	.....	.....
Maryland	11.6	10.3	12.0	.....	88	86	81	91	80	100	.....	....	.....	.....	.....
Virginia	7.2	6.6	10.6	18.0	95	92	82	91	93	89	.....	92	95	50	80
North Carolina	4.4	5.7	9.2	.....	96	95	83	97	95	98	.....	91	90	.....	.....
South Carolina	4.2	5.4	10.6	.....	.....	85	90	96	....	96	95	83	88	.....	.....
Georgia	4.1	4.9	10.3	.....	.....	87	92	96	....	95	95	82	83	.....	.....
Florida	.....	....	10.7	.....	.....	85	85	95	....	94	95	81	75	.....	.....
Alabama	4.5	7.2	12.0	.....	.....	78	86	94	....	96	99	80	70	500	80
Mississippi	.....	8.0	13.2	.....	.....	75	82	93	....	91	96	75	74	.....	.....
Louisiana	.....	.....	13.2	.....	.....	87	85	89	....	96	99	83	72	.....	.....
Texas	6.0	5.5	21.2	15.0	.....	72	70	75	....	80	84	77	73	500	90
Arkansas	7.1	6.5	14.7	.....	.....	72	70	86	95	88	.....	80	76	500	90
Tennessee	4.1	6.3	9.5	.....	.....	76	73	91	86	90	.....	83	85	.....	.....
West Virginia	7.7	9.5	10.6	.....	84	79	69	85	85	86	.....	....	.....	.....	.....
Kentucky	9.2	9.5	8.0	19.0	.....	80	44	83	84	80	.....	....	.....	.....	.....
Ohio	12.5	11.7	18.5	19.5	85	60	51	79	75	78	.....	....	.....	.....	.....
Michigan	15.2	13.4	25.0	22.3	80	72	58	68	....	98	.....	....	100	400	95
Indiana	9.5	13.7	16.3	16.5	78	71	48	81	73	80	.....	....	.....	.....	.....
Illinois	11.5	12.7	18.0	20.3	87	72	32	72	80	82	.....	....	.....	.....	.....
Wisconsin	12.5	12.5	28.0	22.7	88	86	67	.....	92	90	.....	....	.....	.....	.....
Minnesota	12.0	14.0	26.6	22.5	80	85	68	.....	....	89	.....	....	.....	.....	.....
Iowa	11.7	13.7	26.5	22.6	78	73	51	65	....	85	.....	....	.....	.....	.....
Missouri	11.2	12.7	17.4	20.0	73	80	52	83	77	85	.....	....	102	500	95
Kansas	13.5	13.0	25.0	18.0	67	43	34	61	....	72	.....	....	.....	.....	.....
Nebraska	11.1	13.2	21.3	17.3	67	54	32	58	....	62	.....	....	.....	.....	.....
California	12.0	14.0	27.5	22.3	.....	92	90	95	....	.....	.....	....	91	1,100	90
Oregon	15.0	14.3	30.0	25.0	73	84	81	98	....	89	.....	....	93	1,100	98
Colorado	18.5	14.5	24.8	24.5	.....	82	83	.....	....	88	.....	....	.....	.....	.....
Arizona	12.0	.....	.....	18.6	.....	.....	90	.....	....	100	.....	....	.....	.....	.....
The Dakotas	9.0	11.7	21.0	19.5	.....	55	44	.....	....	.....	.....	....	.....	.....	.....
Idaho	12.3	.....	30.0	.....	.....	.....	80	.....	....	.....	.....	....	.....	.....	.....
Montana	22.3	.....	31.0	24.0	.....	.....	83	.....	....	.....	.....	....	.....	.....	.....
New Mexico	16.5	.....	24.0	20.0	.....	92	90	.....	....	100	.....	....	.....	.....	.....
Utah	19.6	13.5	27.5	23.2	.....	82	84	.....	....	98	.....	....	.....	.....	.....
Washington	23.0	14.2	33.5	25.0	.....	90	91	.....	....	.....	.....	....	93	1,480	99
Gen'l average	11.1	11.8	19.8	21.0	90.7	70.6	61.7	.....	85.4	....	.....	80	.....	.....	.....

THE CROP YEAR IN CALIFORNIA AND COLORADO.

During a hasty visit of the assistant statistician to California and Colorado enough was seen to show that the present year has been one of prosperity to the farming classes as a whole in those States. In no branch of rural industry has the year been one of bountiful harvests, and on the contrary, crop failure in any line is not recorded, while the general advance in agricultural values has made crops of medium or even small volume of greater value in the aggregate than more abundant yields in former seasons. A larger monetary return to the producer from the smaller crop is a compensating fact not infrequently oc-

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curring in American agriculture. The loss falls upon individual cultivators who are most unfortunate in location, meteorological conditions, or methods of cultivation, while the benefit of higher prices resulting from scarcity accrues to the whole farming population as a class. In the States named the general gain is accompanied by less than the usual individual loss under similar conditions, the crop shortages being general throughout the whole area rather than the result of local or individual disaster. Yet the individual producer making the larger crop of course realizes the greater benefit.

The winter on the Pacific coast was one of the most severe ever known, the temperature very low, and the rain and snow fall excessive. In the valleys of California grain-sowing was interfered with, the seed-bed was cold, wet, and heavy, and on large areas the plant was drowned out by spring freshets and overflows. Barley, as well as wheat, suffered from these unfavorable conditions. The wheat fields of the State lie mainly in the Sacramento and San Joaquin Valleys, and the conditions governing the cultivation and growth of the cereal are radically different in each valley. The precipitation in the Sacramento Valley is generally abundant and the soil well able to withstand drought, but peculiarly susceptible to damage from excessive rains and resulting floods. On the contrary, the fields of the San Joaquin Valley are more liable to injury from drought and capable of withstanding heavy precipitation with little damage. This adaptability to opposite meteorological conditions in the two grain centers renders a fair crop in one section or the other almost a certainty, and the conditions of the present season, while materially damaging the output in the Sacramento Valley, insured a good result in the greater portion of the San Joaquin. In Tulare and Fresno Counties the yield is probably larger than last year, while in other counties of large production estimates of the crop range from 25 to 75 per cent. of the previous product. A consensus of local estimates might make the crop of the State from 70 to 75 per cent. of that of last year, though the Department will make no estimate until the close of the season.

Definite estimates of the barley product are difficult to arrive at. Among the arable crops it is second only to wheat, and its use is so wide and varied that no record of crop movement can be made. Large quantities of this grain are now annually shipped from the State both to foreign ports and to domestic markets east of the Rocky Mountains. It is a commerce carried on both by sea and by rail, no less than 27 per cent. of the shipment of 1888–'89 being overland. During that year the aggregate shipments amounted to 2,620,428 bushels, of which 1,294,426 bushels were to foreign countries and 1,326,002 bushels to domestic markets. The average price of No. 1 feed barley in the San Francisco market, based upon actual sales, was, for the year under consideration, 75⅝ cents per cental. The crop of the present year is short, smaller proportionally than that of wheat, and the effect of the reduced yield

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is already apparent in the reduced shipments from the State and the increased market price of the product. The San Francisco price of No. 1 feed barley on October 1, 1889, was 72½ cents per cental, while at about the same date the present season it was $1.37, having nearly doubled in value. In spite of the short wheat crop the price of that cereal has not materially changed during the past twelve months, and in view of the prospect of a shortened supply in the world's markets and the certainty of a smaller product for this country, the failure of prices to respond is peculiar.

The following statement shows the prices of both wheat and barley per cental during the first week of October for two years:

Year.	Wheat.	Barley.
1889	$1.32½	$0.72½
1890	1.30 to 1.34½	1.37 to 1.37½

The advance in barley is heavy, but any change in wheat is toward lower prices. An excellent authority believes the rise in local freight rates responsible for the wheat situation, but with the probable shortage of the world's supply and the certain diminished product of this country, it is apparent that higher values must probably soon rule in the California wheat market.

The prices received by grain-growers during recent years have scarcely been remunerative, and the present good prices for barley and probable advance in wheat, with the general prosperity attending other branches of agriculture, will materially assist this branch of agriculture in the State.

The most remarkable results of the year have been in the fruit and vine industries of the coast. The fruit crop, as indicated by the Department's reports during the season, was one of only medium production, below the usual average or standard both in quantity and quality, the hard winter and wet spring being unfavorable to full development. Under ordinary conditions it would have been a year of discouragement, but the practical failure of all fruits east of the Rocky Mountains created such a demand from new markets and so advanced prices as to make it a season of unexampled prosperity to the horticultural interests. As soon as it was apparent that the fruit crop of the East was a failure, early in the year, shrewd dealers throughout the country began to make arrangements to handle California products, and the overland shipments have been enormous, comprising the choicest of the State's production. The prices paid have been such as it might be said growers never hoped to realize, and the crop was large enough to give all interested in the industry the benefit of the exceptional values. The activity in fruit shipment extended to vine products, and many carloads of California's choice table grapes reached markets heretofore held exclusively by the local product, creating a taste and demand

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which will continue hereafter, even in less favorable years. The year has presented a golden opportunity for dissemination throughout the country of a practical knowledge of the fruits of the Golden State, and every advantage has been taken of it. A trade has been opened up which must continue with mutual benefit to producers and consumers of fine fruit, despite distance and costly transportation.

Records of total shipments to points outside of the State are not yet received, but San Francisco authorities on the fruit trade believe that it will be equal to 10,000 car-loads, and a liberal estimate would make the value of these shipments perhaps $10,000,000, a value almost half as large as that of the State's exportation of wheat during 1889. Peaches have brought growers $80 per ton, with higher prices for choice varieties, and all grades, as a rule, have commanded from double last year's prices upward. Wine grapes are bringing better values than ever heretofore realized, the general prosperity of the year extending to all branches of horticulture and vine growing. On the whole the year will go into history as one of general prosperity for the agricultural interests of California.

The year in Colorado has been characterized by results similar to those noted in California, though the yield of Colorado crops is more a matter of local interest, there being no surplus for shipment—indeed, the supply not meeting the demand within the borders of the State. Except in sections of the eastern portion of the State, in the so-called rain-belt district, all agriculture is carried on by means of irrigation, and the question of rain-fall does not directly enter into the calculations of the farmer. He himself supplies his crops with moisture needed, and danger of damage from drought or flood is not considered. The season was unfavorable in the rain-belt areas, the rain-fall being less abundant than in recent years, and the drought was so severe that crops, even where not abandoned, are practical failures. The only exceptions are in local areas where deep and thorough cultivation have enabled plants to utilize every drop of moisture received, the scanty rain-fall and any humidity of the atmosphere, and to better withstand the influences of the blazing sun and cloudless skies. The irrigated grain fields of the valleys tributary to the Platte and Las Animas water-sheds produce their usual abundant yields, and the general stiffening of grain values has already affected the local wheat markets of the State.

A peculiar and decided advantage which the farmers of Colorado enjoy is the proximity of a consuming market demanding all that they can produce with the present development of their industry. It is a great home market, and they are protected from outside competition by distance and cost of transportation from other producing centers. Potatoes, other vegetables, melons and market-garden products, which are wonderfully well adapted to the soil and methods of cultivation followed, are sure of a ready market at remunerative prices in the mining camps and cities and other industrial centers with which the State

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is rapidly filling up. The fruit districts of the Arkansas, Gunnison, and Grand valleys, while not giving full crops, have enjoyed remarkable prosperity. Prices have ruled high, and California fruit has been a less important factor than usual, it this year reaching other and larger markets. The prices received by fruit-growers in these favored districts are remarkable, and until the peculiarities of situation and market are understood, almost incredible. Apples have brought growers from $4 to $6 per barrel in local markets, and peaches in the Grand Valley have sold at from 10 to 18 cents per pound. Grapes bring from 30 to 75 cents per ten-pound box, and pears and plums rule equally high. Nor are these prices considered very unusual. Indeed, some fruits, grapes especially, are beginning to feel the decline which must follow as larger areas are brought under ditch and devoted to fruit-growing. The profits now realized by owners of bearing orchards can not be long maintained when the broad areas available for fruit-growing are utilized, but the close proximity to industrial centers in a country of too great elevation for successful agriculture will always insure remunerative returns from a near consuming market.

PRICES OF WHEAT IN 1890.

The following tables show the prices of wheat through the first nine months of the present year in Great Britain, Russia, and the United States, as indicated for the first by the imperial averages and Mark Lane quotations, for the second by the prices at Odessa, and for the last by the quotations for Chicago, the principal center of the grain trade, and Minneapolis, the chief milling point.

GREAT BRITAIN.

Imperial weekly averages for England and Wales.

Dates.	Per imperial quarter.	Per Winchester bushel.	Dates.	Per imperial quarter.	Per Winchester bushel.
1890.	s. d.		1890.	s. d.	
Jan. 4	30 0	$0.88	May 24	33 2	$0.98
Jan. 11	30 1	.89	May 31	32 11	.97
Jan. 18	30 2	.89	June 7	32 10	.97
Jan. 25	30 1	.89	June 14	32 8	.96
Feb. 1	30 1	.89	June 21	32 9	.97
Feb. 8	29 9	.88	June 28	32 8	.96
Feb. 15	29 8	.87	July 5	32 8	.96
Feb. 22	29 9	.88	July 12	33 2	.98
Mar. 1	29 10	.88	July 19	33 10	1.00
Mar. 8	29 11	.88	July 26	35 0	1.03
Mar. 15	29 11	.88	Aug. 2	35 10	1.06
Mar. 22	29 8	.87	Aug. 9	36 3	1.07
Mar. 29	29 9	.88	Aug. 16	36 6	1.08
Apr. 5	29 8	.87	Aug. 23	36 5	1.07
Apr. 12	29 9	.88	Aug. 30	35 9	1.05
Apr. 19	29 10	.88	Sept. 6	34 6	1.02
Apr. 26	30 4	.89	Sept. 13	33 7	.99
May 3	30 9	.91	Sept. 20	32 1	.95
May 10	31 7	.93	Sept. 27	31 6	.93
May 17	32 5	.96			

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MARK LANE, LONDON.

The quotations for the Mark Lane market, as found in the Mark Lane Express, appear to indicate in shillings per quarter, only the upper and lower limits between which transactions occurred, leaving the minor fluctuations of the market unnoted. In the quotations for British wheat these limits remain unchanged from January 6 to May 19, inclusive, and the intervening dates are consequently omitted in the following table:

Quotations for British wheat.

Dates.	New white.		Old white.		New red.		Old red.	
	Per quarter of 504 pounds.	Per Winchester bushel of 60 pounds.	Per quarter of 504 pounds.	Per Winchester bushel of 60 pounds.	Per quarter of 504 pounds.	Per Winchester bushel of 60 pounds.	Per quarter of 504 pounds.	Per Winchester bushel of 60 pounds.
1890.	s.		s.		s.		s.	
Jan. 6	31–35	$0.90–$1.01	29–33	$0.84–$0.96	28–33	$0.81–$0.96	27–31	$0.78–$0.90
May 19	31 35	.90 1.01	29 33	.84 .96	28 33	.81 .96	27 31	.78 .90
May 26	32 36	.93 1.04	30 34	.87 .98	29 34	.84 .98	29 32	.84 .93
June 2	32 36	.93 1.04	.....	.....	.....	.....	.....	.....
June 9	32 38	.93 1.10	30 35	.87 1.01	29 35	.84 1.01	.....	.....
June 23	33 38	.96 1.10	31 35	.90 1.01	.....	.....	.....	.....
July 14	34 39	.98 1.13	32 36	.93 1.04	30 36	.87 1.04	30 33	.87 .96
July 28	34 40	.98 1.16	.....	.....	30 38	.87 1.10	.....	.....
Aug. 1	.....	.....	35 42	1.01 1.22	.....	.....	32 37	.93 1.07
Aug. 25	36 40	1.04 1.16	35 38	1.01 1.10	34 37	.98 1.07	.....	.....
Sept. 8	35 40	1.01 1.16	.....	.....	32 36	.93 1.04	33 37	.96 1.07
Sept. 15	35 40	1.01 1.16	35 38	1.01 1.10	32 36	.93 1.04	33 37	.96 1.07
Sept. 22	33 37	.96 1.07	35 38	1.01 1.10	32 34	.93 .98	33 37	.96 1.07
Sept. 29	32 36	.93 1.04	35 38	1.01 1.10	30 34	.87 .98	33 37	.96 1.07

Quotations for American wheat.

An examination of the weekly quotations for American wheat shows only the changes indicated below, the quotation for a given date holding good for each week until the date on which another quotation appears.

Dates.	No. 2.				Duluth.	
	Red winter.		Spring.			
	Per quarter of 496 pounds.	Per bushel of 60 pounds.	Per quarter of 496 pounds.	Per bushel of 60 pounds.	Per quarter of 496 pounds.	Per bushel of 60 pounds.
1890.	s.		s.		s.	
Jan. 6	33½–34	$0.99–$1.00	34–35	$1.00–$1.03	36½–37	$1.07–$1.09
Mar. 24	34 35	1.00 1.03	35 36	1.03 1.06	37 38	1.09 1.12
Mar. 31	34 35	1.00 1.03	35 37	1.03 1.09	37 39	1.09 1.15
Apr. 28	35 36	1.03 1.06	36 38	1.06 1.12	37 39	1.09 1.15
May 26	36 36½	1.06 1.07	37 38	1.09 1.12	38 40	1.12 1.18
June 9	35 36	1.03 1.06	36 37	1.06 1.09	37 38	1.09 1.12
July 14	36 37	1.06 1.09	37 38	1.09 1.12	38 39	1.12 1.15
Sept. 1	37 38	1.09 1.12	38 39	1.12 1.15	39 40	1.15 1.18
Sept. 8	36 37	1.06 1.09	37 38	1.09 1.12	38 39	1.12 1.15
Sept. 15	38 39	1.12 1.15	39 41	1.15 1.21	40 42	1.18 1.24
Sept. 22	38 39	1.12 1.15	39 41	1.15 1.21	40 42	1.18 1.24
Sept. 29	38 39	1.12 1.15	39 41	1.15 1.21	40 42	1.18 1.24

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The quotations for Russian and Indian wheats show very little change during the whole period covered. They may be briefly indicated as follows:

Quotations for Russian Wheat.

Dates.	Petersburg and Samara.		Saxonka.		Azima.		Ghirka.	
	Per quarter of 496 pounds.	Per bushel of 60 pounds.	Per quarter of 496 pounds.	Per bushel of 60 pounds.	Per quarter of 496 pounds.	Per bushel of 60 pounds.	Per quarter of 496 pounds.	Per bushel of 60 pounds.
1890.	s.		s.		s.		s.	
Jan. 6 to July 7, inclusive	33–36	$0.97–$1.06	34–36	$1.00–$1.06	32–35	$0.94–$1.03	32–35	$0.94–$1.03
July 14	34 37	1.00 1.09	35–37	1.03 1.09	33 36	.97 1.06	33 36	.97 1.04
July 21 to Aug. 25	34 37	1.00 1.09	35–37	1.03 1.09	34 36	1.00 1.06	34 36	1.00 1.06
Sept. 1	34 37	1.00 1.09	35 37	1.03 1.09	34 36	1.00 1.06	34 36	1.00 1.06
Sept. 8					33 36	.97 1.06		
Sept. 15	34 37	1.00 1.09	35 37	1.03 1.09	33 36	.97 1.06	34 36	1.00 1.06
Sept. 22	34 37	1.00 1.09	35 37	1.03 1.09	33 36	.97 1.06	34 36	1.00 1.06
Sept. 29	34 37	1.00 1.09	35 37	1.03 1.09	33 36	.97 1.06	34 36	1.00 1.06

Quotations for Indian wheats.

Dates.	Calcutta.				Bombay No. 1.		Karachi.	
	No. 1.		No. 2.					
	Per quarter of 496 pounds.	Per bushel of 60 pounds.	Per quarter of 496 pounds.	Per bushel of 60 pounds.	Per quarter of 496 pounds.	Per bushel of 60 pounds.	Per quarter of 496 pounds.	Per bushel of 60 pounds.
1890.	S.		S.		S.		S.	
Jan. 6 to June 2	32 –33	$0.94–$0.97	31–32	$0.91–$0.94	33–34	$0.97–$1.00	31 –32	$0.91–$0.94
June 9	33 34	.97 1.00	32 33	.94 .97	34 36	1.00 1.06	32 33	.94 .97
June 23	33 34	.97 1.00	32 33	.94 .97	35 35½	1.03 1.04	32½ 33	.96 .97
July 14	34 35	1.00 1.03	33 34	.97 1.00	36 36½	1.06 1.07	33½ 34	.99 1.00
July 21 to Aug. 25	34 35	1.00 1.03	33 34	.97 1.00	36 37	1.06 1.09	33 34	.97 1.00
Sept. 1	34 35	1.00 1.03	33 34	.97 1.00	36 37	1.06 1.09	33 34	.97 1.00
Sept. 8					37 38	1.09 1.12		
Sept. 15	34½ 35	1.02 1.03	33 34	.97 1.00	37 38	1.09 1.12	33 34	.97 1.00
Sept. 22	34½ 35	1.02 1.03	33 34	.97 1.00	37 38	1.09 1.12	33 34	.97 1.00
Sept. 29	34½ 35	1.02 1.03	33 34	.97 1.00	37 37½	1.09 1.10	33 34	.97 1.00

RUSSIA.

The Russian quotations are in copecks per pood, the copeck being the hundredth part of a rouble and the pood being equivalent to 36.113 pounds avoirdupois. The Russian currency, consisting of paper with a silver basis, has varied in its relation to the currencies of countries having a single gold standard, or a double standard practically of gold like that of the United States and the Latin Union; and in reducing copecks to their equivalent in cents this fact has been taken into account, the reduction for each date being made according to the rate of exchange for Russian money at the time.

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Prices of wheat at Odessa.

[From a weekly statement issued by the Russian Government.]

Dates.	Ghirka.				Azima.			
	Ordinary.		Nicopolitan.		Bessarabian.		Polish.	
	Per pood.	Per bushel of 60 pounds.	Per pood.	Per bushel of 60 pounds.	Per pood.	Per bushel of 60 pounds.	Per pood	Per bushel of 60 pounds.
1890.	*Copecks.*	*Cents.*	*Copecks.*	*Cents.*	*Copecks.*	*Cents.*	*Copecks.*	*Cents.*
Jan. 3	93– 98	80–84	96–100	82–86	92–108	79 93	95–101	82–87
Jan. 17	.....	.....	.....	.....	.....	.....	95 101	84 90
Jan. 24	90 100	80 89	92 99	82 88	89 104	79 92	93 100	83 89
Jan. 31	85 94	75 83	87 102	76 90	99	87	94 100	83 88
Feb. 7	85 94	75 83	90 103	79 90	88 100	77 88	90 101	79 89
Feb. 13	88 95	77 83	91 104	79 90	86 105	75 91	92 100	80 87
Feb. 21	.....	.....	91 103	79 90	89 104	78 91	94 101	82 88
Feb. 28	83 98	72 85	91 103	79 90	89 106	78 92	93 100	81 87
Mar. 7	90 100	78 87	96 104	84 90	91 107	79 93	94 102	82 89
Mar. 14	94 99	82 87	95 103	83 90	88 104	77 91	94 101	82 89
Mar. 28	.....	.....	95 103	83 90	91 109	79 95	93 101	81 88
Apr. 4	92 98	80 86	91 101	80 88	91 102	80 89	92 100	80 87
Apr. 11	93 98	82 86	91 105	80 92	92 103	81 90	94 100	82 88
Apr. 18	92 98	82 87	93 103	83 91	91 103	91 91	96 104	85 92
Apr. 25	96 97	85 86	94 103	84 92	94 107	84 95	96 103	85 92
May 2	95 96	86 87	94 101	85 91	93 103	84 93	97 100	88 90
May 9	91 97	83 89	94 102	86 93	96 104	88 95	97 102	89 93
May 16	.....	.....	103	94	.....	.....	.....	.....
May 23	.....	.....	96 98	89 91	96 103	89 95	95 98	88 91
May 29	.....	.....	96	90	100	94	100	94
June 5	.....	.....	90 95	84 89	84 99	79 93	92 96	86 90
June 12	.....	.....	88 95	82 89	86 99	80 92	90 95	84 89
June 19	78	72	87 95	81 88	90 96	83 89	.....	.....
June 26	88 90	82 83	87 94	81 87	85 96	79 89	87 93	81 86
July 3	.....	.....	90 95	83 88	87 100	81 93	90 93	83 86
July 10	.....	.....	96	89	90 98	83 91	92 94	85 87
July 17	.....	.....	97	91	98	92	.....	.....
July 31	91	87	.....	.....	.....	.....	92 95	88 91
Aug. 7	85 88	81 84	.....	.....	83 93	79 89	.....	.....
Aug. 15	84 87	81 84	80 95	77 92	86 97	83 94	.....	.....
Aug. 22	83 86	81 84	81 94	79 91	85 92	83 89	86 90	84 88
Aug. 29	94 90	82 88	79 89	77 87	90 94	88 92	.....	.....
Sept. 5	86 90	85 89	.....	.....	86 89	85 88	.....	.....
Sept. 12	85 92	87 94	74 90	75 92	83 91	85 93	.....	.....
Sept. 19	.....	.....	85	89	83 90	87 94	.....	.....

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UNITED STATES.

The following tables show for Chicago and Minneapolis, respectively, the prices of the grades of wheat indicated, those grades having been selected for which quotations are most regularly found from week to week:

CHICAGO.

Quotations from Daily Business for free on board and switched lots.

Dates.	No. 3 spring wheat other than white.		No. 3 red winter wheat.		No. 2 red winter wheat.
	Good.	Choice.	Good.	Choice.	
1890.	*Cents.*				
Jan. 4	67–68	$0.70	$0.70	$0.74 – $0.76	
Jan. 11	68 70	$0.74 – .75	.70	.73½	
Jan. 18	70 72		$0.70– .72	.75 .76	
Jan. 25	69 70	*.74½	.69 .70	.71 .73	$0.76½
Feb. 1	68 70	.72 .73	†.70 .72	.73 .73½	.75½
Feb. 8		.70 *.73		†.72 .74	
Feb. 15	67½			†.70 .72	
Feb. 21	65		.65	.70 .72	
March 1		*.72½ .73			
March 8	69	*.74 .76	.70	.71 .73	
March 14		.72	.70	.73 .75	
March 22		*.75 .76	.71 .73½	.76	
March 29	a72½		.72	†.75 .76	
April 5		*.75½ .76½	.72 .73½	.75 .76	
April 14	75	.80	.80 .80½	.84 .85	
April 19	74	.80 .82		82	
April 26	79 80	.82½ .85	.80 .83		.90
May 3	85	.88 .89		.89 .90	
May 10	88 90	.91 .92	.88 .90	.91 .92	
May 17	85 87	.88 .91		.87 .90	
May 24	85 87	.88 .90	.85 .87	.88 .90	
May 31	86 87	.88 .89	.86 .87	.89	.92½
June 7		.85	.80 .82	.84 .86	.91½
June 14	80 82	.83 .85	.79 .80	.82 .84	
June 20	77 80		.78 .80	.81	
June 25	75	.81½		b.82 .83	
July 3		.81	.80	.81½ .82	
July 12	80 82	.83 .84		.82 .83	
July 21	80 82	.83 .83½		.84 .85½	
July 26		.87 .88	.88 .88½	.89	
Aug. 2	83	.85 .86	.88 .89	.90	.92½
Aug. 9	85	.88 .89			.97
Aug. 16	95		.95	c.97 .98	1.03
Aug. 23		.99 1.01	.98 1.00	1.00 1.03	
Aug. 30	90 93	.95 .97	.98 .98½	.98 .98½	
Sept. 6	90	.93	.90 .92	.94 .95	
Sept. 13	93 95	.94 .96	.92 .93	.96 .97	
Sept. 20	89 90	.92 .94		.91 .93	
Sept. 27	87 89	.90 .91	.88 .90	.91 .92½	

* And choice hard. † Soft. *a* March 28. *b* For very choice. *c* Choice to fancy.

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MINNEAPOLIS.*

[From the Northwestern Miller.]

Week ended—	No. 1 hard, per bushel.		No. 1 Northern, per bushel.		No. 2 Northern, per bushel	
1890.						
Jan. 8	$0.80	–$0.80½	$0.78½	–$0.79	$0.76	–$0.77
Jan. 15		.79½	.77½	.78	.74	.76
Jan 22		.79	.77½	.78	.73	.75
Jan. 29		.79	.77	.77½	.73½	.75
Feb. 5	.78	.78½		.77	.73	.74½
Feb. 12	.78	.78¼	.76	.77	.72½	.74
Feb. 19		.77	.75½	.76	.72½	.74
Feb. 26	.77½	.78	.76½	.77	.72½	.74½
Mar. 5	.79½	.80		.78½	.75½	.77
Mar. 12	.77½			.76½	.74	.75
Mar. 19	.79½		.78		.74½	.76
Mar. 26	.80½		.79	.79½	.76	.78
Apr. 2	.79½		.77½	.78½	.74	.76
Apr. 9	.81½	.82	.80½	.81½	.77	.78
Apr. 16		.87		.86	.82	.84
Apr. 23	.87½	.88	.86½	.87	.81	.84
Apr. 30		.87½		.86½	.82	.83
May 7	.91		.90	.91½	.86	.88
May 14	.90	.91½	.90½		.85	.88
May 21		.92½	.92		.88	.89
May 28	.91½	.92	.90½		.87	.88
June 4	.90		.88½	.89	.85	.86
June 11	.88		.86½		.83	.84
June 18	.86	.87	.84½			.82
June 25	.86		.83½		.78	.80
July 2	.88½		.86		.82	.84
July 9	.91	.92	.87	.88	.82	.84
July 16	.90	.91	.87	.88	.80	.83
July 23	.92	.93	.87½	.88	.83	.84
July 30		.97		.92	.85	.88
Aug. 6		1.00		.97	.88	.92
Aug. 13	1.06½	1.07	1.02	1.03	.95	.98
Aug. 20	1.14	1.15	1.05½	1.08	1.00	1.03
Aug. 27	1.10	1.15	1.04	1.02	.98	1.05
Sept. 3		1.05		1.03		.92
Sept. 10	1.06	1.07	1.01	1.02		
Sept. 17		1.01	.96	.97	.92	.94
Sept. 24		1.00		.95	.90	.91

* Closing prices.

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EUROPEAN CROP REPORT FOR OCTOBER.

GREAT BRITAIN AND IRELAND.

September has been one the finest ever known, and harvesting in the North, which is now nearly completed, shows excellent results. Very little detailed information has been received from Ireland relative to the failure of the potato crop in certain counties, but the recent hot weather is said to have accentuated the disease.

FRANCE.

The principal matter of discussion has been the extraordinary high estimates of the ministry of agriculture, which in its preliminary report places the French wheat yield of 1890 at 119,436,872 hectoliters, and which stated but for the bad weather in May the crop would have been the largest of the century. During August it was not expected that the crop would reach an average, but the damage was overestimated, and the trade is content with the statistics of the Bulletin des Halles, that the result is 109,569,125 hectoliters, from which about 7 per cent. is deducted for damage, etc., leaving a net quantity of 101,899,286 hectoliters. The reserves in the last week of September were 652,000 hectoliters, against 2,445,000 in 1889.

GERMANY.

The reports as to the yields of wheat and oats continue to indicate that the final result will be a slight under-average. Rye is distinctly bad, and the latest information regarding potatoes, as in most European countries, is that the yield will be less than 70 per cent. of an average.

ROUMANIA.

The official reports of the crops of Roumania are of interest, as the country is rapidly developing its agriculture and increasing exports of grain. The excellent crops of this year are being quickly placed upon the markets, the rise in value of the rouble leading to large sales to Russia, while other countries are freely buying. The statistics are as follows:

1890.

	Area.	Yield.
	Hectares.	*Hectoliters.*
Wheat	1,512,671	8,700,000
Rye	173,435	720,000
Barley	530,887	2,300,000
Oats	192,376	1,200,000

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The acreage under wheat in 1888 was 3,103,000 acres; in 1889, 3,365,000 acres, and in 1890, 3,781,000 acres, or an increase of over 20 per cent. in two years. The statistics do not include maize, but the acreage and exports are constantly rising.

RUSSIA.

The Russian and Poland crop of wheat is stated to be about 82,000,000 hectoliters, much better than last year, but under an average; but as yet the Government has given no definite report. The question of yield, from the exporters' point of view, is considered almost as nothing compared with the enhanced value of the rouble, which has now reached the highest point in fourteen years, and has caused general stagnation in the foreign grain trade.

The Russian exports in poods of 36 pounds have been as follows during the last three years:

	1889.	1888.	1887.
Wheat	180, 072, 000	241, 744, 000	130, 619, 000
Rye	81, 530, 500	105, 961, 000	77, 553, 000
Barley	62, 413, 000	79, 296, 000	58, 511, 000
Oats	69, 413, 000	87, 890, 000	61, 016, 000
Buckwheat	1, 506, 000	2, 049, 000	2, 609, 000
Maize	20, 593, 000	16, 895, 000	29, 761, 000
Peas	4, 408, 000	6, 442, 000	4, 188, 000
Beans	907, 000	1, 169, 000	960, 000
Grits	1, 324, 000	2, 223, 000	1, 338, 000
Wheaten flour	2, 162, 000	2, 695, 000	2, 350, 000
Rye flour	866, 000	1, 217, 000	1, 313, 000
Bran	12, 058, 000	13, 011, 000	6, 451, 000

AUSTRIA-HUNGARY.

The weather during the month has been on the whole favorable to the new sowings. Prices have been well maintained despite the abundance of the yields and the excellence of the quality, and trade has been less active on the leading exchanges than the condition of affairs would justify when the wheat yield in the dual Empire is the largest on record.

ITALY.

The Italian wheat crop is placed at 44,400,000 hectoliters, or 95.85 per cent. of the average crop. In fact it is a large crop, as the standard average is too high for late years. In 1889 the yield was 36,400,000; in 1888, 36,600,000, and in 1887, 41,900,000.

E. J. M.

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TRANSPORTATION RATES.

FREIGHT RATES—RAILROAD COMPANIES.

Two of the trunk-line companies—Grand Trunk, and the New York, Chicago and St. Louis Railroad—report changes in their rates of freight October 1 as compared with the rates reported September 1. The changes via the Grand Trunk Road, Chicago to Boston, are: Packing house products, from 30 to 28 cents per 100 pounds; flour from 30 to 27½ cents, and potatoes from 30 to 35 cents; all in car-load lots. The changes via the New York, Chicago and St. Louis Railroad, Chicago to Boston, New York, and Philadelphia are as follows:

Articles.	Boston.		New York.		Philadelphia.	
	Sept. 1.	Oct. 1.	Sept. 1.	Oct. 1.	Sept. 1.	Oct. 1.
Flour, C. L., 125 barrels and over	$0.30	$0.27½	$0.25	$0.22½	$0.23	$0.20½
Fruit, dried, N. O. S., in barrels or casks:						
C. L	.40	.71	.35	.65	.33	.63
L. C. L	.55	.85	.50	.75	.48	.73
Grain, in bulk, C. L. (minimum weight, 24,000 pounds)	.30	.27½	.25	.22½	.23	.20½
Hams, packed, L. C. L	.71	.40	.65	.35	.63	.33
Lard, C. L	.35	.28	.30	.23	.28	.21
Pork, pickled, in barrels (340 lbs. per bbl.) C. L	.35	.28	.30	.23	.28	.21

C. L.—Car-load. N. O. S.—Not otherwise specified. L. C. L.—Less than car-load, P. P.—Prepaid.

RATES FROM MISSOURI RIVER POINTS.

The rates upon certain articles from Missouri River points to St. Louis and Chicago October 1, as reported by the Chicago, Burlington and Quincy Company, show quite a decrease as compared with those reported September 1, and are as follows:

Articles.	To St. Louis from—				To Chicago from—			
	Atchison, Kansas City, and St. Joseph.		Omaha and Council Bluffs.		Atchison, Kansas City, and St. Joseph.		Omaha and Council Bluffs.	
	Sept. 1.	Oct. 1.	Sept. 1.	Oct. 1.	Sept. 1.	Oct. 1.	Sept. 1.	Oct. 1.
Flour, C. L	$0.17½	$0.15	$0.20	$0.15	$0.22½	$0.20	$0.25	$0.20
Green Hides, C. L	.20	.13	.20	.13	.25	.18	.25	.18
Wheat, C. L	.17½	.15	.20	.15	.22½	.20	.25	.20
Other grain, C. L	.15	.12	.15	.12	.20	.17	.20	.17
Cattle, C. L	.18¾	.18¾	.13¾	.18¾	.22	.22	.22	.22
Sheep, C. L	.21¼	.17½	.17½	.17½	.25	.25	.25	.25
Hogs, C. L	.21¼	.15	.17½	.17½	.25	.25	.25	.25

C. L.—Car-load.

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LAKE AND CANAL RATES.

Comparing the straight average of the daily rates of freight for August and September via the Erie Canal, Buffalo to New York, there is found only a slight difference in the rates for the two months upon oats, corn, rye, and wheat. The rate on oats was a trifle less for September, corn and rye a trifle greater, while wheat was the same each month. The great difference in the rates for the two months is, that during the first part of August the rates were lower than during the latter part, while in September they were reversed. This might cause a considerable difference in the true averages for the two months, depending entirely upon the quantity transported each day.

By comparing the straight averages of the daily rates via lakes, Chicago to Buffalo, it is found that the rates for September were much higher than those for August, as shown in the following statement:

Articles.	Erie Canal. Buffalo to New York. Straight average.		Lakes. Chicago to Buffalo. Straight average.	
	August.	September.	August.	September.
	Cents.	*Cents.*	*Cents.*	*Cents.*
Oats.....per bush..	2.58	2.55	1.13	1.47
Corn.....do....	3.42	3.43	1.23	1.64
Wheat.....do....	3.93	3.93	1.50	1.89

There would be a much greater difference shown in the lake rates if the true averages were obtained, as the rates during nearly the entire month of September were greater than during August.

The following transportation companies report no important changes in their rates since last published:

Pennsylvania Railroad Company (west bound); Delaware, Lackawanna and Western Railroad; Northern Pacific Railroad; St. Paul and Duluth Railroad; Newport News and Mississippi Valley Company; Lake Shore and Michigan Southern Railway; New York Central and Hudson River Railroad; Chicago and Atlantic Railway; Pennsylvania lines (west of Pittsburgh); New York, Lake Erie and Western Railroad; Illinois Central Railroad Company; Old Dominion Steam-ship Company; St. Louis and Mississippi Valley Transportation Company; Norwich and New York Transportation Company; Portland Steam Packet Company; Winsor Line.

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NEW YORK, CHICAGO AND ST. LOUIS RAILROAD.

[Rates in effect October 1, 1890, in cents per 100 pounds.]

Articles.	From Chicago to—					
	Fort Wayne.	Cleveland.	Buffalo.	Boston.	New York.	Philadelphia.
Agricultural implements:						
O. R., N. O. S., C. L	10	15	17½	35	30	28
N. O. S., K. D. flat, in bundles, L. C. L	25	37	42½	85	75	73
Apples, green, in barrels:						
O. R., P. P., C. L	10	15	17½	35	30	28
O. R., P. P., L. C. L	17	25	27½	55	50	48
Bacon, packed:						
C. L	10	15	16½	35	30	28
L. C. L	12½	17	20	40	35	33
Beans, dried, N. O. S., in bags or barrels:						
C. L	10	15	17½	35	30	28
L. C. L	12½	17	20	40	35	33
Beef:						
Dressed, refrigerator cars, C. L	15	17½	17½	30	30	28
In barrels or tierces, C. L	10	15	15	28	23	21
Bulk meats, C. L	12½	17	16½	33	28	26
Butter, in wood, L. C. L	22	34	37½	71	65	63
Cheese, in boxes or casks, L. C. L	17	25	27½	55	50	48
Fertilizers:						
N. O. S., C. L	8	10	15	30	25	23
In packages, L. C. L	12½	17	20	40	35	33
Flour:						
C. L., 125 barrels and over	7	10	15	27½	22½	20½
Less than 125 barrels	10	15	17½	35	30	28
Fruit:						
Green N. O. S., P. P., released, C. L	22	34	37½	71	65	63
Dried, N. O. S., in barrels or casks, C. L	12½	17	20	71	65	63
Dried, N. O. S., in barrels or casks, L. C. L	17	25	27½	85	75	73
Grain, in bulk:						
C. L. (minimum weight 24,000 lbs)	7	10	15	27½	22½	20½
Less than 24,000 and more than 15,000 lbs	10	15	17½	35	30	28
Corn and oats, C. L	7	10	15	25	20	18
Hams, packed:						
C. L	10	15	16½	28	23	21
L. C. L	12½	17	20	40	35	33
Hides:						
Dry, loose, or in packages, C. L. (minimum weight 20,000 lbs)	12½	17	20	40	35	33
Dry, pressed in bales, L. C. L	25	37	42½	85	75	73
Green, in bundles, C. L	10	15	17½	28	23	21
Hops, in bales, L. C. L	22	34	37½	71	65	63
Lard:						
C. L	10	15	17½	28	23	21
In barrels or boxes, L. C. L	12½	17	20	40	35	33
Lumber:						
N. O. S., C. L	8	12	15	30	25	23
N. O. S., L. C. L	12½	17	20	40	35	33
Pork, pickled, in barrels (340 pounds per barrel):						
C. L	10	15	17½	28	23	21
L. C. L	12½	17	20	40	35	33
Potatoes:						
O. R., P. P., C. L	10	15	17½	35	30	28
O. R., P. P., L. C. L	12½	17	20	40	35	33
Salt:						
C. L	7	10	15	30	25	23
In boxes or sacks, L. C. L	12½	17	20	40	35	33
Tobacco, unmanufactured, in hogsheads or cases, L. C. L	12½	17	20	40	35	33
Wool, in bales or sacks:						
Minimum weight 10,000 pounds, C. L	22	34	19½	39½	34½	32½
L. C. L	25	37	42½	85	75	73
Cattle, C. L	10½	11½	11½	18	18	16
Sheep, C. L	11	15	17½	30	30	28
Hogs, C. L	10½	10½	14	23	23	21
Horses and mules C. L	17	25	32½	60	60	58

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. K. D.—Knocked down.
N. O. S.—Not otherwise specified. P. P.—Prepaid.

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GRAND TRUNK RAILWAY.

[Rates in effect October 1, 1890, in cents per 100 pounds.]

Articles.	Boston and Portland to—		Boston and Portland from—	
	Chicago.	Detroit.	Chicago.	Detroit.
Agricultural implements:				
O. R., N. O. S., C. L.	26	20	35	28½
N. O. S., K. D. flat, in bundles, L. C. L.	65	51	85	68½
Apples, green, in barrels:				
O. R., P. P., C. L.	26	20	35	28½
O. R., P. P., L. C. L.	44	35	55	44
Bacon, packed:				
C. L.	26	20	28	23
L. C. L.	31	24	40	32½
Beans, dried, N. O. S., in bags or barrels:				
C. L.	26	20	35	28½
L. C. L.	31	24	40	32½
Beef:				
Dressed, refrigerator cars, C. L.	.....	.....	30	.....
In barrels or tierces, C. L.	26	20	28	23
Butter, in wood, C. L.	57	45	71	56½
Cheese, in boxes or casks.	44	35	55	44
Fertilizers:				
N. O. S., C. L.	22	18	30	24½
In bags or barrels, L. C. L.	31	24	40	32½
Flour:				
C. L., 125 barrels and over	22	18	27½	22½
Less than 125 barrels	26	20	35	28½
Fruit:				
Green, N. O. S., P. P., released, C. L.	57	45	71	56½
Dried, N. O. S., in bags, barrels, or casks, C. L.	31	24	40	32½
Dried, N. O. S., in bags, barrels, or casks, L. C. L.	44	35	55	44
Grain, in bulk:				
C. L. (minimum weight 24,000 pounds)	22	18	30	24½
Less than 24,000 and more than 15,000 pounds	26	20	35	28½
Corn and oats, C. L.	22	18	25	20½
Hams, packed:				
C. L.	26	20	28	23
L. C. L.	31	24	40	32½
Hides:				
Dry, loose, or in packages, C. L. (minimum weight 20,000 pounds)	31	24	40	32½
Dry, pressed in bales, L. C. L.	65	51	85	68½
Green, in bundles, C. L.	26	20	28	23
Hogs, dressed, refrigerator cars, C. L.	.....	.....	30	.....
Hops, in bales, L. C. L.	57	45	71	56½
Lard:				
C. L.	26	20	28	23
In barrels or boxes, L. C. L.	31	24	40	32½
Lumber:				
N. O. S., C. L.	22	18	30	24½
N. O. S., L. C. L.	31	24	40	32½
Pork, pickled, in barrels:				
C. L.	26	20	28	23
L. C. L.	31	24	40	32½
Potatoes:				
O. R., P. P., C. L.	26	20	35	28½
O. R., P. P., L. C. L.	31	24	40	32½
Salt:				
C. L.	22	18	30	24½
In boxes or bags, L. C. L.	31	24	40	32½
Sheep, dressed, refrigerator cars, C. L.	.....	.....	30	.....
Tobacco, unmanufactured, in hogsheads or cases, any quantity.	31	24	40	32½
Wool, in bales or sacks:				
C. L. (minimum weight 10,000 pounds)	57	45	.....	39½
L. C. L.	65	51	85	68½
Cattle, C. L.	.....	.....	18	16½
Sheep, C. L.	.....	.....	30	23½
Hogs, C. L.	.....	.....	25	18
Horses and mules, C. L.	.....	.....	60	47

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified. K. D.—Knocked down. P. P.—Prepaid.

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CHICAGO, BURLINGTON AND QUINCY RAILROAD.

[Rates in effect October 1, 1890.]

Articles.	To St. Louis from—		To Chicago from—	
	Atchison, Kansas City, St. Joseph.	Omaha, Council Bluffs.	Atchison, Kansas City, St. Joseph.	Omaha, Council Bluffs.
Apples, in barrels or boxes:				
O. R., P. P., or guaranteed, C. L ..... per 100 lbs..	$0. 20	$0. 20	$0. 25	$0. 25
O. R., P. P., or guaranteed, L. C. L ..... do....	30	30	40	40
Bacon and hams:				
Packed, C. L ..... do....	13	13	18	18
In barrels, boxes, or crates, L. C. L ..... do....	25	25	30	30
Beef:				
Dried or pickled, in barrels or tierces, C. L ..... do....	13	13	18	18
Dried, in boxes, barrels, or crates, L. C. L ..... do....	25	25	30	30
Beef, dressed:				
Common cars, C. L ..... do....	18½	18½	23½	23½
Refrigerator cars, C. L ..... do....	18⅝	18⅝	23⅝	23⅝
Butter, in wood or tin:				
O. R., C. L ..... do....	30	30	40	40
O. R., L. C. L ..... do....	40	40	60	60
Cheese, in boxes, tubs, or casks:				
C. L ..... do....	30	30	40	40
L. C. L ..... do....	40	40	60	60
Cotton, pressed in bales, any quantity ..... do....	55	55	75	75
Fertilizers, except guano:				
N. O. S., in packages, C. L ..... do....	11	11	16	16
N. O. S., in packages, L. C. L ..... do....	25	25	30	30
Flour:				
C. L ..... do....	15	15	20	20
In barrels (200 pounds per barrel), L. C. L ..... do....	25	25	30	30
Hides:				
Dry, in bundles, L. C. L ..... do....	55	55	75	75
Dry, C. L. (minimum weight, 10,000 pounds) ..... do....	40	40	60	60
Green, in bundles, C. L ..... do....	13	13	18	18
Hogs, dressed:				
Common cars, C. L ..... do....	18½	18½	23½	23½
Refrigerator cars, C. L ..... do....	18⅝	18⅝	23⅝	23⅝
Lard, in barrels or tierces:				
C. L ..... do....	13	13	18	18
L. C. L ..... do....	25	25	30	30
Lumber:				
Soft, C. L ..... do....	10½	08½	15	15
Hard, C. L ..... do....	11⅝	10⅝	16	16
Except woods of value, L. C. L ..... do....	30	30	40	40
Pork, packed:				
C. L ..... do....	13	13	18	18
L. C. L ..... do....	25	25	30	30
Potatoes:				
N. O. S., in sacks or barrels, O. R., C. L ..... do....	15	15	20	20
N. O. S., in sacks or barrels, O. R., L. C. L ..... do....	25	25	30	30
Sweet, O. R., L. C. L ..... do....	40	40	60	60
Tobacco, unmanufactured, in hogsheads or cases, L. C. L ..... do....	25	25	30	30
Wool:				
Compressed in bales, L. C. L ..... do....	30	30	40	40
In sacks, L. C. L ..... do....	40	40	60	60
Grain:				
Wheat, rye, and barley, C. L ..... do....	15	15	20	20
Corn and oats, C. L ..... do....	12	12	17	17
Seeds, flax, hemp, Hungarian, millet, or sorghum, O. R., C. L .... do....	17½	20	25	25
Cattle, C. L ..... do....	18½	18½	22	22
Sheep, S. D. or D. D., C. L ..... do....	17½	17½	25	25
Hogs, S. D. or D. D., C. L ..... do....	15	17½	25	25
Horses, C. L ..... per standard car....	40. 00	40. 00	60. 00	60. 00

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. P. P.—Prepaid. N. O. S.—Not otherwise specified. S. D.—Single-deck. D. D.—Double-deck.

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CHICAGO AND ALTON RAILROAD.

[Rates in effect October 1, 1890, in cents per 100 pounds.]

Articles.	To Chicago from—			From Chicago to—			To East St. Louis from—			From East St. Louis to—		
	Bloomington.	East St. Louis.	Kansas City.	Bloomington.	East St. Louis.	Kansas City.	Louisiana.	Cedar City.	Kansas City.	Louisiana.	Cedar City.	Kansas City.
Agricultural implements (except hand), O. R., C. L.	13.7	15	30	13.7	15	28	11	16½	22½	11	18½	20
Apples: C. L.	12.6	14	25	12.6	14	21	9½	17	20	9½	16	16
L. C. L.	20	20	40	20	20	42	17	27	30	17	27	32
Bacon: C. L.	10	10	18	15	15	18	9½	13	13	9½	13	13
In barrels, L. C. L.	20	20	30	20	20	28	14	22	25	14	22	23
Beef: Pickled, C. L.	10	10	18	15	15	18	9½	12	13	9½	12	13
Salted, in barrels, L. C. L.	20	20	30	20	20	28	14	22	25	14	22	23
Dressed, C. L.	16½	16½	23½	16½	16½	23½	13½	13½	18½	13½	13½	18½
Butter, in wood or tin, O. R., L. C. L.	26.6	29	60	26.6	29	58	22	40	40	22	35	38
Cheese, in boxes, tubs, or casks: C. L.	20	20	40	20	20	42	17	27	30	17	27	32
L. C. L.	33.8	38	60	33.8	38	58	22	40	40	22	35	38
Cotton, pressed, in bales: C. L.	20	20	30	20	20	28	14	22	25	14	22	23
L. C. L.	26.6	29	75	26.6	29	70	30	50	55	30	45	50
Fertilizers, N. O. S., in packages: C. L.	7.1	9	16	7.1	9	15	7	9	11	7	9	10
L. C. L.	20	20	30	20	20	28	14	22	25	14	22	23
Flour: N. O. S., in barrels, 200 pounds per barrel: C. L.	9.7	10	18½	9.7	10	22½	7½	13	17½	7½	13	17½
L. C. L.	20	20	30	20	20	28	14	22	25	14	22	23
Grain, other than wheat, C. L.	8.9	12	25	8.9	12	20	7	10	15	7	10	15
Hams: C. L.	10	10	18	10	10	18	9½	12	13	9½	12	12
In barrels, L. C. L.	20	20	30	20	20	28	14	22	25	14	22	23
Hogs, dressed, C. L.	16½	16½	23½	16½	16½	23½	13½	13½	18½	13½	13½	13½
Lard, in barrels or tierces: C. L.	10	10	18	10	10	18	12	13	13	12	13	13
L. C. L.	20	20	30	20	20	28	14	22	25	14	22	23
Lumber: C. L.	9	10	15	9	10	15	7	9½	10½	7	7	10½
L. C. L.	20	20	30	20	20	28	14	22	25	14	22	23
Pork, salted: C. L.	10	10	18	10	10	18	12	13	13	12	13	13
In barrels, L. C. L.	20	20	20	20	20	28	14	22	25	14	22	23
Potatoes, N. O. S., in sacks or barrels: O. R., C. L.	9.7	13	20	9.7	13	18	9	14	15	9	13	15
O. R., L. C. L.	20	20	30	20	20	28	14	22	25	14	22	23
Salt, C. L.	20	20	15	20	20	13	6½	9½	9½	6½	9½	9½
Sheep, dressed, C. L.	16½	16½	23½	16½	16½	23½	13½	18½	18½	13½	18½	18½
Tobacco, unmanufactured, in hogsheads	20	20	30	20	20	28	14	22	25	14	22	23
Wheat, C. L.	9.7	13	21½	9.7	13	22½	7½	13	17½	7½	13	17½
Wool, C. L. (minimum weight 20,000 pounds)	13.7	15	40	13.7	15	42	17	27	30	17	27	32
Cattle: C. L. (minimum weight 20,000 lbs.)	11.8	14	12½	11.8	14	22	9½	13	13½	9½	13	13½
Estimated weight, L. C. L.	43.2	47	75	43.2	47	70	30	50	55	30	45	50
Horses: C. L. (minimum weight 20,000 lbs.)	12.98	15.4	*60.00	12.98	15.4	*60.00	*23.00	*35.00	*40.00	*23.00	*35.00	*40.00
Estimated weight, L. C. L.	43.2	47	75	43.2	47	70	30	50	55	30	45	50
Sheep: S. D., C. L. (minimum weight 12,000 lbs.)	16.7	20	22	16.7	20	25	12	14	17½	12	14	17½
D. D., C. L. (minimum weight 20,000 lbs.)	16.7	20	22	16.7	20	25	12	14	17½	12	14	17½
Hogs: S. D., C. L. (minimum weight 15,000 lbs.)	15.9	19	22	15.9	19	25	12	12	15	11	12	15
D. D., C. L. (minimum weight 22,000 lbs.)	15.9	19	22	15.9	19	25	12	12	15	11	12	15
Estimated weight, L. C. L.	43.2	47	75	43.2	47	70	30	50	55	30	45	50

* In dollars per car. C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified. S. D.—Single-deck. D. D.—Double-deck.

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LOUISVILLE AND NASHVILLE RAILROAD.

[Rates in effect October 1, 1890.]

Articles.	From Louisville to—			To Louisville from—
	Atlanta.	Savannah.	New Orleans.	New Orleans.
Agricultural implements, C. L. per 100 lbs.	$0.46	$0.46	$0.25	$0.36
Apples:				
C. L. do.	.29½	.31	.25	.26
L. C. L. do.	.46	.46	.35	.36
Bacon, packed, C. L do.	.36	.35	.28	.26
Beans, in barrels or sacks:				
C. L do.	.56	.58	.25	.41
L. C. L. do.	.56	.58	.40	.41
Beef, dressed, common cars:				
C. L. do.	.41	.40	.45	.31
L. C. L. do.	.81	.75	.65	.68
Butter, in tubs or firkins:				
C. L. do.	.81	.75	.65	.68
L. C. L. do.	.84	.75	.65	.68
Cheese, in boxes or casks, C. L. do.	.68	.70	.50	.51
Cotton, uncompressed, any quantity do.			*1.75	.42
Cotton-seed meal and cake, C. L. do.	.28	.30	.20	.20
Cotton-seed oil, C. L do.	.25	.46	.35	.19
Fertilizers:				
C. L per ton.	3.10	4.80	3.05	4.00
L. C. L. do.	3.70	5.75	3.66	4.80
Flour, in barrels:				
C. L per barrel.	.54	.56	.45	.40
L. C. L. do.	.54	.56	.45	.40
Fruit, dried, in barrels:				
C. L. per 100 lbs.	.37	.70	.25	.51
L. C. L. do.	.37	.70	.50	.51
Grain, C. L do.	.27	.28	.20	.20
Hams in boxes or barrels:				
C. L do.	.36	.35	.28	.26
L. C. L. do.	.36	.35	.28	.26
Hogs, dressed, common cars, C. L do.	.41	.40	.45	.31
Lard, in barrels or kegs:				
C. L. do.	.36	.35	.28	.26
L. C. L do.	.36	.35	.28	.26
Lumber:				
Box cars, C. L. do.	.46	.25	.25	.22
Flat cars C. L. do.	.46	.25	.25	.22
L. C. L. do.	.68	.70	.50	.51
Pork, pickled:				
C. L. do.	.36	.35	.28	.26
L. C. L do.	.36	.35	.28	.26
Potatoes:				
C. L., released do.	.31	.31	.25	.26
L. C. L do.	.46	.46	.35	.36
Sweet, in barrels, O. R.; prepaid or guaranteed, L. C. L. do.	.46	.46	.36	.36
Salt:				
In barrels, C. L do.	.14	.22	†.55	.18
In sacks, L. C. L do.	.46	.46	.35	.36
Sheep, dressed, common cars, C. L do.	.41	.40	.45	.31
Tobacco, unmanufactured, in hogsheads do.	.68	.70	.27	.51
Wool:				
Pressed, in bales, C. L do.	.81	.75	.65	.47
In sacks, C. L do.	1.07	.95	.90	.47
Hogs, C. L. per car.	75.00	110.00	75.00	80.00
Sheep, C. L do.	75.00	110.00	75.00	80.00

* Per bale. † Per barrel.

C. L.—Car-load. L. C. L.—Less than car-load. O R.—Owner's risk.

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NEW YORK CENTRAL AND HUDSON RIVER RAILROAD.

[Rates in effect October 1, 1890, in cents per 100 pounds.]

Articles.	From New York to—					To New York from—				
	Buffalo.	Cleveland.	Toledo.	Cincinnati.	Chicago.	Erie.	Cleveland.	Detroit. Toledo.	Cincinnati.	Chicago.
Agricultural implements:										
O. R., N. O. S., C. L	16	21	23	26	30	18	21½	23½	26	30
N. O. S., K. D., flat, in bundles, L. C. L	39	53	59	65	75	45	58	58½	65	75
Apples, green, in barrels, O. R., P. P.:										
C. L	16	21	23	26	30	18	21½	23½	26	30
L. C. L	28	36	39	44	50	30	35½	39	43½	50
Bacon, packed:										
C. L	16	21	23	26	30	14	16½	18	20	23
L. C. L	19	25	27	30	35	21	25	27½	30½	35
Beans, dried, N. O. S., in bags or barrels:										
C. L	16	21	23	26	30	18	21½	23½	26	30
L. C. L	19	25	27	30	35	21	25	27½	30½	35
Beef:										
Dressed, refrigerator cars, C. L	....	....	....	....	....	18	21½	28	26	30
In barrels or tierces, C. L	16	21	23	26	30	14	16½	18	20	23
Bulk meats, C. L	19	25	27	30	35	17	20	22	24½	28
Butter, in wood	33	46	51	57	65	39	46	50½	56½	65
Cheese, in boxes or casks	28	36	39	44	50	30	35½	39	43½	50
Fertilizers:										
N. O. S., C. L	13	18	20	22	25	15	17½	19½	21½	25
In bags or barrels, L. C. L	19	25	27	30	35	21	25	27½	30½	35
Flour:										
C. L., 125 barrels and over	13	18	20	22	25	13½	16	17½	19½	22½
Less than 125 barrels	16	21	23	26	30	18	21½	23½	26	30
Fruit:										
Green, N. O. S., P. P., released, C. L	33	46	51	57	65	39	46	50½	56½	65
Dried, N. O. S., in barrels or casks, C. L	19	25	27	30	35	21	25	27½	30½	35
Dried, N. O. S., in barrels or casks, L. C. L	28	36	39	44	50	30	35½	39	43½	50
Grain, in bulk:										
C. L., (minimum weight 24,000 pounds)	13	18	20	22	25	13½	16	17½	19½	22½
Less than 24,000 and more than 15,000 pounds	16	21	23	26	30	18	21½	23½	26	30
Corn and oats, C. L	13	18	20	22	25	12	14	15½	17½	20
Hams, packed:										
C. L	16	21	23	26	30	14	16½	18	20	23
L. C. L	19	25	27	30	35	21	25	27½	30½	35
Hides:										
Dry, loose, or in packages, C. L. (minimum weight 20,000 pounds)	19	25	27	30	35	21	25	27½	30½	35
Dry, pressed in bales, L. C. L	39	53	59	65	75	45	53	58½	65	75
Green, in bundles, C. L	16	21	23	26	30	18	21½	23½	20	23
Hogs, dressed, refrigerator cars, C. L	....	....	....	....	....	18	21½	28	26	30
Hops, in bales, L. C. L	33	46	51	57	65	39	46	50½	56½	65
Lard:										
C. L	16	21	23	26	30	14	16½	18	20	23
In barrels or boxes, L. C. L	19	25	27	30	35	21	25	27½	30½	35
Lumber, N. O. S.:										
C. L	13	18	20	22	25	15	17½	19½	21½	25
L. C. L	19	25	27	30	35	21	25	27½	30½	35
Pork, pickled, in barrels:										
C. L	16	21	23	26	30	14	16½	18	20	23
L. C. L	19	25	27	30	35	21	25	27½	30½	35
Potatoes, O. R., P. P.:										
C. L	16	21	23	26	30	18	21½	23½	26	30
L. C. L	19	25	27	30	35	21	25	27½	30½	35
Salt:										
C. L	13	18	20	22	25	15	17½	19½	21½	25
In boxes or bags, L. C. L	19	25	27	30	35	21	25	27½	30½	35
Sheep, dressed, refrigerator cars, C. L	....	....	....	....	....	18	21½	28	26	30
Tobacco, unmanufactured, in hhds. or cases, any quantity	19	25	27	30	35	21	25	27½	30½	35
Wool, in bales or sacks:										
C. L. (minimum weight 10,000 pounds)	33	46	51	57	65	30	34½	34½	34½	34½
L. C. L	39	53	59	65	75	45	53	58½	65	75
Cattle, C. L	28	36	39	44	50	11	13	16½	18	18
Sheep, C. L	28	36	39	44	50	18	21½	23½	26	30
Hogs, C. L	28	36	39	44	50	14	16½	18	20	23
Horses and mules, C. L	33	46	51	57	65	36	42½	47	52	60

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MERCHANTS' AND MINERS' TRANSPORTATION COMPANY.

[Rates in effect October 1, 1890.]

Articles.	From Baltimore to—				To Baltimore from—			
	Boston.	Savannah.	Norfolk.	Providence.	Boston.	Savannah.	Norfolk.	Providence.
Apples ..... per barrel..	$0.35	$0.25	$0.20	$0.35	$0.35	$0.25	$0.20	$0.35
Bacon ..... per 100 pounds..	.15	.15	.10	.15	.15	.15	.10	.15
Beef ..... per tierce..	.60	.60	.30	.60	.60	.60	.30	.60
Butter and cheese ..... per 100 pounds..	.25	.25	.20	.25	.25	.25	.20	.25
Cotton, compressed ..... per bale..	1.00	1.00	.50	1.00	1.00	1.00	.50	1.00
Fertilizers ..... per 100 pounds..	.15	.15	.10	.15	.15	.15	.10	.15
Flour ..... per barrel..	.25	.25	.12	.25	.25	.25	.12	.25
Hams and lard ..... per 100 pounds..	.15	.15	.10	.15	.15	.15	.10	.15
Hogs, dressed ..... do....	.20	.20	.15	.20	.20	.20	.15	.20
Lumber ..... do....	.15	.15	.15	.15	.15	.15	.15	.15
Pork ..... per barrel..	.60	.60	.30	.60	.60	.60	.30	.60
Potatoes ..... do....	.35	.25	.20	.35	.35	.25	.20	.25
Salt ..... per 100 pounds..	.15	.15	.10	.15	.15	.15	.10	.15
Tobacco, unmanufactured, in hogsheads..per hhd..	2.50	2.50	1.00	2.50	2.50	2.50	1.00	2.50
Wool ..... per 100 pounds..	.30	.30	.30	.30	.30	.30	.30	.30
Grain ..... do ..	.12	.12	.10	.12	.12	.12	.10	.12
Cattle, O. R., released ..... each..	15.00	15.00	5.00	15.00	15.00	15.00	5.00	15.00
Horses, O. R., released ..... do....	20.00	20.00	5.00	20.00	20.00	20.00	5.00	20.00
Sheep and hogs, O. R., released ..... do....	3.00	3.00	.50	3.00	3.00	3.00	.50	3.00

O. R.—Owner's risk.

YAZOO AND TALLAHATCHIE TRANSPORTATION COMPANY.

[Rates in effect October 1, 1890.]

Articles.	From Vicksburg, Miss., to—					
	All landings below Yazoo City.	Yazoo City.	Silver Creek and Tchula.	Riverside.	Greenwood.	Tallahatchie River.
Apples, green, in barrels ..... per barrel..	$0.25	$0.20	$0.25	$0.30	$0.25	$0.30
Bacon, packed ..... per 100 pounds..	.12½	.08	.12½	.15	.12½	.15
Beef and pork ..... per barrel..	.35	.30	.37½	.50	.45	.50
Corn meal ..... do....	.25	.15	.25	.30	.25	.30
Cotton, in bales ..... per bale..	.75	.75	.75	.75	.75	1.00
Flour, in barrels ..... per bbl..	.25	.15	.25	.30	.25	.30
Grain ..... per 100 lbs..	.12½	.08	.12½	.15	.12½	.15
Lard, in buckets, tierces, kegs, or cases ..... do....	.12½	.08	.12½	.15	.12½	.15
Lumber ..... per 1,000 feet..	4.00	4.00	5.00	6.00	6.00	6.00
Potatoes, in barrels ..... per bbl..	.25	.15	.25	.30	.25	.30
Salt ..... per sack..	.25	.20	.25	.30	.25	.25

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MONTHLY STATEMENT OF CANAL AND LAKE RATES.

[For September, 1890.]

Date.	Canal rates, Buffalo to New York.					Lake rates, Chicago to Buffalo.		
	Oats per bushel.	Corn and rye per bushel.	Wheat per bushel.	Lumber per 1,000 feet.		Oats per bushel.	Corn per bushel.	Wheat per bushel.
				To Albany.	To New York.			
	Cents.	*Cents.*	*Cents.*			*Cents.*	*Cents.*	*Cents.*
Sept. 1	2⅜	3⅜	4	$1.75	$2.25	1⅜	1½	1⅜
2	2⅜	3⅜	4	1.75	2.25	1⅜	1⅜	1⅜
3	2⅜	3⅜	4	1.75	2.25	1⅜	1⅜	1⅜
4	2⅜	3⅜	4	1.75	2.25	1⅜	1⅜	1⅜
5	2⅜	3⅜	4	1.75	2.25	1½	1⅜	1½
6	2⅜	3⅜	4	1.75	2.25	1½	1⅜	1½
7	2⅜	3⅜	4	1.75	2.25	1½	1⅜	1½
8	2⅜	3⅜	4	1.75	2.25	1½	1⅜	1½
9	2⅜	3⅜	4	1.75	2.25	1⅜	1⅜	1⅜
10	2⅜	3⅜	4	1.75	2.25	1⅜	1⅜	1⅜
11	2⅜	3⅜	4	1.75	2.25	1⅜	1½	2
12	2⅜	3⅜	4	1.75	2.25	1⅜	1½	2
13	2⅜	3⅜	4	1.75	2.25	1⅜	1⅜	2
14	2⅜	3⅜	4	1.75	2.25	1⅜	1⅜	2
15	2⅜	3⅜	3⅞	1.75	2.25	1⅜	1⅜	2
16	2⅜	3⅜	3⅞	1.75	2.25	1⅜	1⅜	2
17	2⅜	3⅜	3⅞	1.75	2.25	1⅜	1⅜	2
18	2⅜	3⅜	3⅞	1.75	2.25	1⅜	1⅜	2
19	2⅜	3⅜	3⅞	1.75	2.25	1⅜	1⅜	2
20	2⅜	3⅜	3⅞	1.75	2.25	1⅜	1⅜	2
21	2⅜	3⅜	3⅞	1.75	2.25	1⅜	1⅜	2
22	2⅜	3⅜	3⅞	1.75	2.25	1⅜	1⅜	2
23	2⅜	3⅜	3⅞	1.75	2.25	1⅜	1⅜	2
24	2⅜	3⅜	3⅞	1.75	2.25	1⅜	1⅜	2
25	2⅜	3⅜	3⅞	1.75	2.25	1⅜	1⅜	2
26	2⅜	3⅜	3⅞	1.75	2.25	1⅜	1⅜	2
27	2⅜	3⅜	3⅞	1.75	2.25	1⅜	1⅜	2
28	2⅜	3⅜	3⅞	1.75	2.25	1⅜	1⅜	2
29	2⅜	3⅜	3⅞	1.75	2.25	1⅜	1⅜	2
30	2⅜	3⅜	3⅞	1.75	2.25	1⅜	1⅜	2

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OCEAN STEAM-SHIP COMPANIES.

[Rates in effect October 1, 1890.]

Articles.	White Star Line, New York to Liverpool.	Inman Line, New York to Liverpool.	Anchor Line, New York to Glasgow.
Wheat ..... per bushel	$0.02	$0.04	$0.2.02–.03
Corn ..... do	.02	.04	.02–.03
Flour ..... per barrel	.24	.24	.30
Flour (in sacks) ..... per 2,240 pounds	1.20	2.40	2.40
Bacon ..... do	2.40	2.40	4.20
Lard ..... do	2.40	2.40	4.20
Cheese ..... do	4.80	3.60	7.20
Tallow ..... do	1.50	2.40	3.60
Beef ..... per tierce	.48	.36	.84
Pork ..... per barrel	.25	.24	.60
Oil-cake ..... per 2,240 pounds	.60	2.40	2.40
Cotton ..... per pound	.00 3/4	.00 3/4	
Hops ..... do	.01 1/2	.00 1/2	.00 1/2
Tobacco ..... per hogshead	4.80	4.80	4.80
Rosin ..... per 280 pounds		.30	.24
Lard (in small packages) ..... per 2,240 pounds	4.80	3.60	5.40
Tobacco (in cases) ..... per 40 cubic feet	3.60	3.60	4.80
Apples ..... per barrel	.60	.60	.72
Hams ..... per 2,240 pounds	2.40	2.40	4.20
Butter ..... do	7.20	6.00	7.20
Measurement per ton (40 cubic feet)	3.60	3.60	3.60 to 6.00
Primage ..... per cent		5	5

Articles.	North German Lloyd Steam-ship Company, New York to Bremen.	General Transatlantic Company, New York to Havre.
Wheat ..... per 100 pounds	$0.12	*$0.08
Corn ..... do	.12	*.08
Flour ..... per barrel	.70	1.00
Flour (in sacks) ..... per 100 pounds	.20	.30
Bacon ..... do	.24	
Lard ..... do	.24	.30
Cheese ..... do	.42	.40
Tallow ..... do	.24	.27 1/2 to .30
Beef ..... per tierce	1.25	1.25
Pork ..... per barrel	1.00	1.00
Oil-cake ..... per 100 pounds	.20	
Cotton ..... per pound	†.00 1/2	.00 1/2 to .00 1/2
Hops ..... do	†.01	.01
Tobacco ..... per hogshead	6.00	7.00
Rosin ..... per 280 pounds	.50	
Lard (in small packages) ..... per 100 pounds	.36	.35 to .45
Tobacco (in cases) ..... per case	1.50	‡8.00
Apples ..... per barrel	1.00	.90
Hams ..... per 100 pounds	.25	
Butter ..... do	.00	.40
Measurement per ton (40 cubic feet)	4.80 to 10.00	8.00 to 10.00
Primage ..... per cent		5

*Per bushel. †And 5 per cent. primage. ‡Per 40 cubic feet.

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DEPARTMENT OF AGRICULTURE.

REPORT OF THE STATISTICIAN.

New Series. Report No. 79.

REPORT

ON

YIELD OF CROPS PER ACRE,

AND ON

FREIGHT RATES OF TRANSPORTATION COMPANIES.

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

NOVEMBER, 1890.

WASHINGTON:
GOVERNMENT PRINTING OFFICE,
1890.

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NOVEMBER REPORT.

DEPARTMENT OF AGRICULTURE,
November 11, 1890.

SIR: I have the honor to submit for publication the report of November, showing the estimated average yields of corn, potatoes, buckwheat, sorghum, tobacco, and hay. The prospects of cotton, and of apples, pears, and grapes, are also reported.

There also are included various statistics of European agriculture of recent date.

The publication of changes of freight rates of transportation companies is continued.

Respectfully,

J. R. DODGE,
Statistician.

Hon. J. M. RUSK,
Secretary.

NOVEMBER CROP REPORT.

CORN.

The present returns give estimated local yields per acre. Their consolidation sustains previous reports of condition. The average is 19.9 bushels per acre, which is the smallest average reported, except in 1881, when it was 18.6 bushels. The yield of 1887 was only one-fifth of a bushel larger. The average for ten years, from 1880, was 24.1 bushels, in a period remarkable for seasons of drought, the preceding ten years having made an average of 27.1 bushels. The decline of the last decade is not due to impairment of fertility, but to meteorological causes. The yield of 1889 was as high as the average of the decade ending in 1879.

The highest rates are in New England, as usual; New York averages 25.3; Pennsylvania, 27.5; Ohio, 20.7; Michigan, 26.7; Indiana, 24.3; Illinois, 25; Iowa, 26; Missouri, 25.8; Kansas, 11.3; Nebraska, 20.3. The principal decline is in the corn surplus States.

The indications of recent returns have been so uniform that the estimate for permanent record will not be likely to change this figure unless by a slight fraction.

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The crop generally ripened well in Maine, New Hampshire, and Vermont, through exemption from frosts, though the moist atmosphere prevented late corn from drying thoroughly. Some failure to fill out the tips of ears is reported. The crop was better than was anticipated in the northern belt.

There is considerable soft corn in New York and Pennsylvania from late maturation. A considerable portion is still in the shock, not in condition to husk as early as usual, and much of it too green to be shelled. It is not so good in wet lands, even on the soils of New Jersey. Similar causes have delayed husking in Delaware, and to a less degree in Maryland. The dry uplands were best in this region. Some uplands yield fifty bushels per acre.

A fair crop is garnered in Virginia. Some of the early planted fields were injured by drought, and low lands by heavy rains in the later season, yet some counties claim a better yield than for many years. Cribbing is not yet completed. In Fluvanna there is some complaint of weevil in standing corn, an unusual circumstance. The best crop in twenty years is claimed in Pender, North Carolina, and other counties make favorable comparisons. Freshets have wrought much mischief in the bottom lands this autumn. Warm and wet weather has caused some rotting in the fields. Excessive rains are reported in South Carolina. The meteorological features of the season have been quite similar throughout the southern coast region. The damage is perhaps as great in Georgia as in the Carolinas.

In Florida the ravages of the bud-worm are frequently mentioned, and the weevil has been a factor in depreciation of quality.

Most of the crop in Mississippi is yet in the fields, somewhat injured by heavy rains, and rotted to some extent. In Union County it is claimed that one-third has rotted. In Leake County similar injury is admitted, while the crop is held to be the best for years. Too much moisture injured quality in Louisiana. Even Texas did not escape wet weather, or drought either. The State is so large that belts of rain and drought are usual if not invariable. In some places early rains were followed by drought.

In Arkansas, some localities were injured by rain, others by want of it, and many by alternations of extremes of precipitation. The variability of the crop area makes it difficult to formulate a correct estimate of the yield. An otherwise good crop has been injured materially in quality by rains in Tennessee. There was no killing frost until October 29.

There was a drought in West Virginia in midsummer, and heavy rains since, injuring the quality. In Kentucky the crop is extremely variable. Bottom-lands of principal rivers were deluged, while those of the smaller streams made fair returns. The absence of frost has repaired the injury from moisture in a degree.

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Quotations from correspondents of the seven surplus States are appended:

OHIO.—*Sandusky:* The latter portion of the season has been unusually favorable for late corn; but little has been husked as yet, it not being sufficiently dry to crib. *Franklin:* The crop in this county seems to have suffered all possible drawbacks during the past season. Excessive rains in the spring, which prevented early planting and proper cultivation, a severe drought later on, and finally destructive storms and overflowing of river-bottoms, which ruined what were until that time our best fields. *Hamilton:* Not yielding so well as was anticipated. In husking, many short, half-filled ears are found and a considerable amount of soft, unmerchantable quality. *Mahoning:* Very little husked yet in consequence of continued rains, and it is too green to crib with safety. Many fields will not yield 5 bushels per acre of sound quality. *Adams:* The prospect was greatly improved after the rains of September, but frequent and severe winds laid much of it flat on the ground, and many ears are found to be damaged by rotting. *Holmes:* Kept from drying by the continued wet weather; about 25 per cent. will be molded in shock. *Mercer:* Gathering in progress; yield not quite up to expectations and quality far below the average. *Pickaway:* Not so much cribbed as is usual at this date. Weather not favorable for drying; some molded in shock. *Allen:* Very light; not over a half crop. *Columbiana:* Damaged by wet weather during the past month. *Hocking:* Injured by the wet weather of September and October. *Knox:* Very uneven and is slow in drying, which delays husking beyond the usual time. *Licking:* Is suffering in shock from the continued rains. *Medina:* Very little husked in consequence of wet weather; what effect this will have on the crop can not at present be stated. *Paulding:* Very little cribbed as yet; some molding in shock from the warm, wet weather. *Perry:* Weather exceedingly unfavorable for curing in shock or crib; much injured from molding, especially where cut green. *Ross:* Has suffered serious damage in shock from excessive rains. *Tuscarawas:* Of inferior quality. *Union:* Very short crop by reason of drought; quality pretty good. *Wyandot:* Molding in shock; can not cure out, owing to excessive rains. *Fairfield:* Is being damaged in shock from excessive moisture and warm weather. *Jefferson:* None gathered yet, it having rained for twenty-two successive days in October, therefore no estimate can be given as to yield or quality. *Logan:* The poorest crop in many years, having been damaged by drought during the summer and by excessive rains in the fall. *Belmont:* Damaged by the excessive rains which are still prevailing. *Coshocton:* But little has been husked; it is likely to be damaged by the heavy rains of the past month. *Harrison:* Not so good as was expected; much is soft in consequence of late planting. *Huron:* Not sufficiently dry to crib; very little husked. *Portage:* Has not dried out so well as is desirable; but little has been husked. *Clermont:* Many fields are entirely worthless; others yield from 5 to 60 bushels per acre. *Defiance:* So little has been cribbed that no estimate can be given as to yield; husking has been delayed by wet weather, and where cut up the fodder is molding. *Monroe:* The crop suffered greatly from floods, and the average is reduced to a very low figure in consequence, the portions flooded being those which usually bring the very best corn; many fine bottom-lands will yield less than 5 bushels per acre, and that of poor quality. *Seneca:* Husking delayed by frequent rains, and much is molded in shock, while the fodder is blackened and worthless. *Lawrence:* Some has been damaged by frost; much will be soft and unmerchantable.

INDIANA.—*Daviess:* Will be scarce. *Vermillion:* Good in yield and quality. *Spencer:* Some damage done to the crop by wind-storms. *Wabash:* Very little has been cribbed as yet, and it is not in very good condition, owing to the fact that frost did not occur until very late. *Allen:* Much was immature when cut, and husking has been delayed by warm, wet weather. *Bartholomew:* Very poor in yield and quality, owing to the midsummer drought. *Gibson:* Is being cribbed in bad condition, much of it being down on the ground and sprouting from continued wet weather. *Howard:* For a small proportion of the crop the yield is very good, but for much the greater

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part it is very poor, and the quality is generally inferior, spongy, shallow-grained and sprouted from excessive rains during September. *Jay:* Almost a failure in consequence of drought. Quality very poor. *Kosciusko:* The latter portion of the season being very favorable, the crop improved considerably, and is now regarded as of good quality. About one-fourth is soft. *Marion:* Not yielding so well as was generally anticipated. Has been damaged by the unusual amount of rain. *Union:* Yield proves to be exceedingly low as the husking season advances. *Wayne:* The crop was almost ruined by drought. *White:* The crop was subjected to trying extremes of temperature and weather conditions during the spring and summer, and but for the exceedingly favorable fall its chances would have been utterly ruined. *Blackford:* Has matured well. *DeKalb:* Somewhat better than was expected in yield and quality. *Huntington:* A large proportion is chaffy, especially on clay soil. *Madison:* Far better than was indicated three months since. *Whitley:* Ripened out fully as well as was expected, but is below the average in quantity and quality. *Carroll:* Average yield cut down by the drought of July and August. Quality improved by recent rains. *Delaware:* The condition of the crop shows no improvement on reports of previous date. Damaged by wet spring, summer drought, and later by violent windstorms. *Franklin:* An extremely low average as to yield. *Grant:* None cribbed. Some fields good, others less than one-fourth of an average crop. *Hamilton:* In fine condition, the autumn having been unusually favorable for maturing the crop, no frost to even injure the fodder until within the past week. *Hancock:* Only a small portion of the crop has been gathered, therefore no accurate figures for yield can be given. *Lagrange:* Not so good as was expected before husking began. *Lake:* Of good quality, but below the average in yield. *Ohio:* Somewhat green for the season. *Sullivan:* Gathering has begun and yield is found to be short. *Warren:* Yield not large, but quality good. *Newton:* Very heavy on some lands, on others very light; the latter is especially noticeable on low grounds where not tiled. *Randolph:* It is difficult to make an accurate estimate as to yield, so many fields being entire failures. *Steuben:* Falls below the figures given last month. Ears small, but generally sound. *Switzerland:* Yielding better than was anticipated two months ago. Will be slightly damaged by excess of moisture. *Clinton:* A light crop and very uneven in yield, consequently hard to estimate. The warm, moist weather of October prevented its drying for the crib.

ILLINOIS.—*Henderson:* The yield is falling below earlier estimates, farmers who expected 40 bushels per acre getting perhaps 20, and in some cases much less. The stalk is damaged by smut. *Henry:* Yield and quality better than was anticipated, especially on lands where fertilizers have been used; on poor, exhausted soil the crop is very short. *Union:* Only a half crop owing to the protracted drought of the summer. *Bureau:* Yield is very uneven, running from 5 to 60 bushels per acre; few fields will give over 30, and many from 5 to 10 only. *Douglas:* Yield proves to be lighter than earlier estimates have indicated. *McHenry:* Husking is in progress; corn is found to be generally of good, merchantable quality and the yield is from 40 to 50 bushels (shelled) per acre. *Madison:* Short in the western portion of the county; in the eastern part will make about 40 bushels per acre. *Jo Daviess:* Was helped materially by the mild fall weather, but is still below the average. *Wabash:* Lost at least 5 per cent. in quality during October in consequence of the warm, wet weather, and has gained equally in quantity from the same cause; no injury from frost. *Cook:* Better than was anticipated. *Cumberland:* Greatly benefited by the favorable weather of the past month. *DeWitt:* Yield is found to be extremely variable, some farmers reporting it at 20 bushels, others at 50 or 60; quality good, but not quite up to earlier expectations. *Kendall:* Some fields are almost up to the average in yield, others show almost a failure; very little progress made in gathering; quality fair, but will not grade No. 2 according to the rules of inspection at Chicago on account of small-sized grains. *Lee:* Ripening up well; will be good on lands plowed in the fall; not so good on those plowed in spring. *Livingston:* Not yielding so well as was

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expected; ears small, but generally sound; weather favorable for gathering. *McLean:* A fair crop of excellent quality. *Macon:* Quality never better, but the yield is the lightest in many years. *Salem:* Yield proves to be lighter than was expected. The crop suffered from long intervals of drought, alternating with heavy rain-falls. *Marshall:* Yield varies in different localities. Quality generally good. *Mason:* Good on low lands; light on uplands. Quality good. *Morgan:* Well matured in consequence of the dry weather, which has prevailed since September 7. No damaging frosts occurred until the last of October. *Moultrie:* Well dried out and of good quality. *Randolph:* Rather early to give any definite figures for yield, as the crop has not yet been gathered for storage. In northern portion of the county it was almost a failure owing to the protracted drought. *Stephenson:* Crop light; was injured on low lands by freshets in June. The dry weather of July and August left many stalks and even entire hills without an ear; the rains of September brought out new shoots, but there being no pollen to fertilize them they did no good. *Vermilion:* Perfectly matured, there having been no killing frosts until it was ready to crib. Yield not quite up to previous expectations, but still somewhat above the average; 40 bushels per acre is considered a fair crop; this year many fields will give from 60 to 75, and the general average will be at least 43. *White:* Husking is in progress; both yield and quality are found to be disappointing. *Champaign:* A fair average in some localities, in others was greatly injured by drought. *Coles:* Yield not so good as was generally predicted. *Hardin:* Very uneven as to yield; good in some localities, in others short. *Menard:* Too early to give estimate of yield with any degree of accuracy, husking having just begun; however, it is likely to fall below expectations. *Pope:* Believed to be a fair crop as to quality, though a definite estimate can not yet be made. *Saline:* Generally well matured before killing frosts occurred. *Stark:* Gathering has just begun, so that the average yield can only be guessed. The figures given, 21 bushels per acre, are probably a high estimate. *Logan:* Quality good. *Tazewell:* Has ripened finely and is of excellent quality. About one-third of the crop is husked. The product is very uneven, some fields yielding 80 bushels per acre, others as low as 10. *Christian:* The yield falls below expectations, while the quality is better than previous reports have indicated. *Clark:* But little gathered as yet, it not being sufficiently dry to crib. The yield will exceed the estimate made October 1. *Fulton:* Quality exceptionally good and sound. There is some little complaint of dry-rot, but no serious damage reported. *Warren:* Yield reported at from 10 to 45 bushels per acre, so that it is difficult to make an estimate. *Washington:* Early planted injured by drought, late planted by frost. *Winnebago:* Varies greatly in yield, running from 8 to 50 bushels per acre. *Green Lake:* Has generally been secured in fine condition. *Effingham:* A very light crop. Damaged by drought. *Shelby:* A failure in the southern half of the county, hence the low average. *Wayne:* In good condition for cribbing.

IOWA.—*Lucas:* Some fields protected from hot winds gave 60 bushels per acre, some 30, some 20, and some 10. Some fields were entire failures. *Marion:* What there is is light and chaffy. *Union:* Average is reduced by a severe hail-storm in August, which destroyed half the corn in one township and injured considerably the crop in two others. *Clarke:* Much lighter than anticipated. *Louisa:* Much better than expected. *Monona:* Will hardly average 50 per cent. of last year's crop as tested by weight and quality. We were ten points too high in October report. *Pottawattamie:* As husking progresses many are disappointed in the yield. None will be used as fuel this year. *Winneshiek:* Not husking so well as expected. *Worth:* Not so good as anticipated before husking. *Mahaska:* The lightest crop ever grown here; ears are not well filled. *Hardin:* Falls away below what was expected before gathering. *Iowa:* Weather good for gathering corn. *Sac:* Frequently thin, partly soft and loose, and many nubbins; also considerable smutty corn in the field. *Greene:* October was favorable for drying corn, and 10 per cent. is now in crib. The yield is disappointing and below former estimates. *Wapello:* Falling short of previous estimates. A great many stalks have no ears. The quality of the crop is good. *Craw-*

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ford: Hurt by early frost. *Polk:* In this locality corn yields 20, 24, 28, 30 bushels per acre, and 5 miles away there are fields of 30 and 40 acres that will not produce one bushel on the whole field. Hence the difficulty of making a report. *Hamilton:* Fair crop; a little light and chaffy. *Tama:* Lightest crop in many years except in northern townships. *Allamakee:* Very uneven. Light in some parts of county owing to drought. On my own farm the yield is the best in twenty-five years, and will average 60 bushels per acre, all sound and No. 1. *Des Moines:* Discounted 10 per cent. from last report. Too many nubbins and stalks with nothing on them. It ranges from 0 to 45 bushels per acre. *Dubuque:* Turns out better than expected and will average three-fourths of a full crop in the northeastern part of county.

MISSOURI.—*Livingston:* Being cribbed in good condition. Some complaint of worms in ears and smut. Yielding less than expected. *Macon:* Light crop. *Adair:* Season was very fine for maturing corn. *Phelps:* Very much improved by good weather in August and September. *St. Louis:* Past all danger from frost. *Washington:* Damaged somewhat by excess of rain during the fall. *Andrew:* Not well filled and light. *Atchison:* Very light. Worms damaged it. Most of it will be fed cattle. *Gentry:* Chaffy and light. Much damaged by early frost. Estimates are difficult, as there is much difference in north and south of county. Crop is less than expected. *Taney:* Greatly injured by continued rain in September and October. *Vernon:* Late rains damaged corn standing in shock. *Wright:* Damaged by excessive rain in September and October. *Caldwell:* Good quality. *Camden:* Badly damaged by worms. It is down and sprouted. Will be none for export. *Douglas:* Rains have so badly injured corn as to lessen the yield per acre. *Newton:* Badly damaged by wet weather. Fully 10 per cent. is spoiled by the long continued rains. *St. Francois:* Saved by late rains. *Christian:* Damaged by the excessive rain, much of the corn being blown down. *Iron:* Molding very much in the fields, and worse where blown down. Fields that promised fair crops a month ago are now badly rotted. *McDonald:* Very poor and rotting from excessive rain. *Texas:* So badly damaged by heat and drought in July that the late rains in August and September did but little good. *Webster:* Cut short by drought. Quality would have averaged 100, but ripening in the dry season many ears did not turn down, which let water in at the points and it was held by the husk at the buts until much of the corn rotted. *Benton:* Light from drought, and much worm-eaten. *Hickory:* Gathering has begun and it is turning out well. It is damaged somewhat by wet weather. *Johnson:* But little gathered. When harvested the result may vary somewhat from the present estimates. The crop is sound. *Carroll:* Early planted is not good; late planted is better and sounder. *Carter:* Badly worm-eaten and considerably damaged by wet in September and October. *Henry:* Somewhat damaged by late rains and yield is 5 bushels less than at last reports. *Howard:* Drying well and will be ready to be gathered next week. *Lincoln:* Good in some sections, and light and chaffy elsewhere. *Monroe:* Larger and better crop than we expected during the drought. *Oregon:* Damaged by continued rain in September. *Dallas:* Full crop in some localities and in other sections very short. *Hall:* Much of it on river bottoms gave from 60 to 100 bushels per acre. *Lafayette:* Not so good as supposed some time ago in yield or quality. Early planted was more hurt by drought than the later. *Lawrence:* Badly injured by continued rains.

KANSAS.—*Riley:* Yield less than expectation. When the husks are removed nearly half the ears are only partially filled. *Sherman:* Very little saved; thousands of acres are nothing but fodder, owing to drought. *Atchison:* Weather good for maturing corn; a good deal being put in crib. *Barton:* A little corn along the Arkansas River, the rest is a failure. *Cowley:* Chaffy and not filled out. *Miami:* Not yielding so well as expected and there is more than the usual amount of rotten corn. *Finney:* Outside of irrigation it is a failure owing to drought; quality good. *Pawnee:* Nearly a failure from drought and hot winds. *Woodson:* Many fields are light and chaffy. *Ellsworth:* Nearly all put in shock. No merchantable corn this year. *Clark:* Fail-

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ure; none worth reporting. *Elk:* Very light and poor. *Jackson:* Not husking out as much as expected.

NEBRASKA.—*Platte:* The yield is a great disappointment. It goes from 0 to 40 bushels per acre. Quality not good. A great deal must be imported. *Sarpy:* Not so good as expected in yield, but the quality is very fair. *Washington:* Yield may be somewhat changed when shelling begins. *Sheridan:* Very materially injured by drought in July and August, and early frosts. *Webster:* Many fields are total failures. *Wheeler:* Impossible to estimate yield. Some fields estimated by good judges to yield 30 bushels per acre were found on husking to give less than 10 bushels per acre. *Hamilton:* Many did not get the seed back. I have told many farmers of my report of 3 bushels per acre of all kinds, and 1 of fair quality. They agree that I did not miss much in quantity, but put the quality too high. Many acres have been picked, and the unanimous exclamation is, "Worse than I expected." *Hayes:* Totally ruined by hot winds and drought. *Polk:* Almost a failure owing to hot winds. *Douglas:* Doing quite as well as expected, but the quality is not so good as last year's. *Gosper:* Poorer than it looks in the husk, and quality is not good, owing to drought. *Red Willow:* Not cribbed. Will not exceed 5 bushels per acre. Mostly cut for feed. *Sanders:* Light and chaffy. *Holt:* Half a crop. *Saline:* Worse than anticipated. Quality is very poor. Some isolated pieces will yield from 30 to 35 bushels per acre, but the majority will not exceed 12–15. *Hitchcock:* Thousands of acres will not yield 1 bushel. *Madison:* A disappointing crop in yield and kind.

In Michigan, excessive moisture has been the main cause of injury to corn, while in Wisconsin the extreme heat of July was the most potent factor of deterioration. There is considerable good corn in Minnesota, with some injury, first by drought and then by heavy rains.

COTTON.

The cotton returns for November are county estimates of yield per acre. The consolidation, considering areas with rates of yield, with corrections only of obvious errors, makes the average yield 187 pounds of lint per acre. It is about the same as the yield of last year, and better than the returns of yield last November. The returns of condition, up to October, are in comparative harmony with those of November. Last year indications of rate of yield were lower than the promise of condition, as the November estimates are apt to be. Whether the present returns indicate improvement in reporting final and definite crop results, or prove depressed in comparison with the previous records of the season, will be demonstrated later. It would indicate a growing rectitude of reportorial judgment, should the usual tumble at the close of the season be avoided. A marked advance towards accuracy has been noted in returns of areas and products of other crops, and it is hoped that cotton estimates will share in the improvement. When close approximation to the crop has been made in an estimate by the Statistician, which has been almost invariable whenever such has been made, it has resulted from harmonizing the returns of the year and correcting the tendencies to unconscious conservatism born of self-interest. Ellison, Hester, and other experts in cotton statistics have noted the superior reliability of reports of condition in forecasting the

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outcome, after due consideration of changes following the October return.

The estimated yields by States are as follows: Virginia, 168 pounds; North Carolina, 182; South Carolina, 175; Georgia, 165; Florida, 108; Alabama, 160; Mississippi, 200; Louisiana, 238; Texas, 196; Arkansas, 225; Tennessee, 191.

Some of the returns report killing frosts, which did not extend to a large area on the southern side of the cotton belt. Much will therefore depend on the weather of November and December, not only in perfecting growth, but in saving the crop.

Should the season continue favorable, and the views of correspondents prove conservative, the result may be slightly larger than is here indicated.

The quality of lint has been deteriorated by excessive rains and injured by discoloration.

The following voluntary remarks are made by county correspondents:

VIRGINIA.—*Dinwiddie:* Has opened well and is yielding better than for three years. *Greensville:* Suffered somewhat from long-continued rains and cold nights in July.

NORTH CAROLINA.—*Sampson:* The crop is much better than expected two months ago; we will make in the county nearly or quite double what was made last year. *Halifax:* Notwithstanding the fact that it has rained every four or five days, picking has progressed very well. *Lenoir:* Crop twice as good as last year. *Chatham:* Is more than double last year's crop, and quality of staple is extra. *Columbus:* Good. *Craven:* The crop will nearly double that of last year. *Edgecombe:* A full average crop. *Iredell:* Has been damaged some by wet weather; picking very much delayed; at least one-third yet in fields. *Jones:* Turns out at gin better than ever known, making more lint in proportion to seed; but the lint is not nice; was spoiled by too much rain. *Moore:* Will not all be gathered before December 1; crop best in ten years. *Richmond:* Some heavy rains during the month and inadequateness of labor to the requirements of picking, because of the advanced stage of maturity and opening of crop, have delayed housing and ginning, but the entire crop will be gathered in a few weeks. *Rowan:* Is opening much earlier than usual, and is turning out well. *Beaufort:* Last year's crop in this county was almost a complete failure; hence the great difference between the two crops. *Bertie:* Picking going on rapidly, much coming into market; 30 per cent. better than last year. *Cabarrus:* The season latterly has been fine, and all cotton will be fully open by the 15th instant; pickers are scarce and many fields have not yet been touched. *Mecklenburgh:* The spring was earlier and the fall later this year than usual for this latitude, hence the season was lengthened to the extent of making the indicated product this year as compared with last year as diverse as were the seasons of the two years. *Pitt:* The best crop in eight years. *Wilson:* Four-fifths picked out and yielding more lint than usual; best crop since 1882. *Onslow:* Farmers will be late in housing their cotton owing to rains and scarcity of labor. *Greene:* The best crop for twelve or fifteen years, many farmers making 400 pounds of lint per acre; two-thirds of the crop housed to date and all will be by December 1 if good weather prevails. *Pamlico:* There is much trouble about picking, hands being scarce; the crop is more than four times better than last year. *Stanly:* Unusually fine crop.

SOUTH CAROLINA.—*Abbeville:* The weather during October was more favorable to cotton than that of September; 75 per cent. of the crop is stained. *Barnwell:* Two weeks and three days were lost on account of rain, or the crop would be nine-tenths gathered. *Beaufort:* The extremely wet and unfavorable weather at harvest-time has been very injurious to cotton. *Colleton:* Picking has been going on during the

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month, and the fields are still white with cotton. Notwithstanding a loss was sustained by bad weather a very large crop has been made, much larger than crops for past two years. *Spartanburgh:* Has been damaged by excessive rains. *Williamsburgh:* Up to a full yield, but the quality is poor, owing to wet weather and exposure in the fields. Farmers generally are very much behind in harvesting the crop. *Anderson:* Unfavorable weather for picking; damaged by rain and not being fully harvested. *Lancaster:* Has not been damaged by wet weather as much as was expected; the weather has been more favorable the past week, and nearly all cotton open; picking a little backward.

FLORIDA.—*Nassau:* Damaged by dry weather. *Madison:* Very light. *Baker:* The weather has been fine for picking cotton this month. It is nearly all out of the fields. The rust caused it to open early and to loose the top crop. *Duval:* Heavy rain-fall has injured the cotton. *Bradford:* Cotton is off 25 per cent. as compared with last year's crop in consequence of rust.

GEORGIA.—*Lincoln:* The continued wet weather has retarded the gathering of cotton. *Calhoun:* If the weather remains favorable a fine top crop of cotton will be gathered. *Wilkes:* Weather too wet for picking, both seed and lint being injured. *Upson:* Difficult to gather on account of unseasonable weather. *Coweta:* Excessive rains have reduced the cotton prospect by rotting in the bolls. *Early:* Will be housed on or before December 1. *Baldwin:* The season has been unfavorable for picking, and the weevil has been injurious to the crop. *Gordon:* Underrated. *Newton:* Constant rain has reduced the value and quantity one-tenth. *Murray:* Injured by the excessive rains. *Irwin:* Cotton nearly all housed; crop short. *Webster:* Gathered in a stained condition. *Wayne:* Little, if any, short cotton grown in this county. Sea island or long staple is raised. *Troup:* Quality is poor, owing to a great amount of rain and wind, making a very large portion of stained cotton. *Schley:* Damaged by rain. *Meriwether:* Killing frost, which came this morning, will prevent much late cotton from opening, and on bottom lands will shorten the yield. *Glascock:* Yield equal to last year; quality inferior; damaged by too much rain. *Randolph:* Damaged by excessive rains; the texture will be good, the grade reduced. *Washington:* Rain has injured the crops and retarded the gathering. *Coffee:* The crop is better than it gave promise of in September; weather was unfavorable for gathering the cotton; a great deal is yet to be picked. *Gwinnett:* A good average; excessive wet weather has retarded the gathering, and has injured the quality of one-half the crop; no danger from frost. *Liberty:* Damaged by rust. *Lowndes:* Cotton is doing better; rain has ceased, and that which is to open will be a better grade. *Madison:* Farmers are gloomy; weather very unfavorable; many fields still untouched; much cotton is on the ground and that in the bolls is about one-fourth rotting. Pickers are scarcer than ever known. *Milton:* About the usual yield. Farmers are behind in gathering the crops—have been retarded by rain. *Pierce:* The delayed frosts have added materially to the growth of cotton. *Thomas:* Crop a failure. *Walker:* Was apparently injured, but has improved greatly in consequence of the fine, clear weather; no frost until the 28th of October, which came too late to injure the crop. *Warren:* Damaged by rain, and much is now in the fields to gather. *Catoosa:* Excessive rains have injured the crop. *Walton:* Damaged by too much rain. *Mitchell:* Owing to continued rains the season has been unfavorable for saving cotton, consequently the grade is low. *Montgomery:* The cotton crop was never better, the farmers having made more than they can gather by Christmas. *Bibb:* Very spotted in some parts of the country, in others extraordinarily good; best crop in ten years. *Campbell:* Owing to the extremely variable weather farmers have been retarded in picking. The almost incessant rains have caused a very large per cent. of low-grade cotton. *Chattahoochee:* Seventy-five per cent. of the crop picked. Farmers complain of too much rain and a scarcity of labor. *Clayton:* Crop is heavy; picking progressing slowly; pickers are scarce; killing frost October 29th, but will result in little damage. *Colquitt:* Short crop.

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Boll-worms are very damaging. *Fayette:* Late rains have injured the crop. *Gilmer:* Very few bales raised in this county. *Greene:* Has improved in quantity during the last month; heavy rains have injured the quality. *Banks:* Has been much damaged by rain; picking badly behind. *Berrien:* Owing to drought and too much rain, the crop is short. *Houston:* Rains have retarded the picking; the quality has fallen off at least 10 per cent., and is of a low grade. *Jones:* Falling far short of the farmers' expectations. *Telfair:* It is difficult to give an average, but will compare favorably with the adjoining counties. *Chattooga:* Damaged by the protracted rains. *McDuffie:* Owing to constant and heavy precipitation through September and October the lint is very inferior and 25 per cent. of it rotted in the ground. *Dodge:* Late rains have injured the crop 20 per cent. *Terrell:* Cotton badly damaged by rain; behind in picking on account of scarcity of labor. *Taliaferro:* Damaged by continuous rains since August; for forty years past there has never been so much open cotton seen in the fields as at any time during the past six weeks; pickers are getting a little above the usual weights; not above 6 or 8 per cent. of the entire crop will be marketed in good condition. *Clarke:* Wet weather has retarded gathering of cotton and will injure the quality. *Laurens:* Badly damaged by rains and winds; quite a large per cent. is yet in the field; pickers are scarce and careless. *Monroe:* Cotton about half gathered; heavy frosts last October seriously affected top crop.

ALABAMA.—*Russell:* A large portion will be poor. *Barbour:* Most of the crop badly damaged from excessive rains. *St. Claire:* Weather is now fine. Cotton will be improved by the frost. *Randoph:* Is fine; weather is favorable for picking. *Dallas:* Since the opening of the cotton season the weather has been unfavorable for picking. *Tallapoosa:* Badly damaged by excessive rains; about two-thirds of the crop gathered and marketed. *Sumter:* Killing frost on the 31st; all bolls not fully matured will be lost, or make yellow cotton. More rotten cotton than has ever been known. Gathering is pushed forward as rapidly as possible. *Lowndes:* Cut off and damaged by rain during October; a great deal rotting. *Calhoun:* Injured by severe rain and wind storm on the 21st and 23d of October; all cotton more or less stained. *Pickens:* Rain has retarded picking; the yield may yet fall below 125 pounds lint cotton per acre. *Limestone:* An improvement on last year. *Lee:* Gave promise in the early season of a large crop, but the continued wet weather has caused a great deal to rot; sprouting in the bolls damaged the quality. *Conecuh:* Hundreds of acres white for the want of hands to pick, and are being damaged by rain; some fields have never been picked; the boll-worm has destroyed one-third of the crop. *Montgomery:* Being damaged by falling out, and getting soiled. *Dale:* Inferior quality. *Clay:* It is impossible to give a correct estimate; owing to excessive rains a great portion has been damaged. *Lawrence:* But for the continued wet and cloudy weather, the cotton crop would be the largest made in many years; the plant is of luxuriant growth; bolls have rotted in low lands and consequently have fallen off in yield 15 per cent. *Greene:* On account of late frost there has been an improvement in cotton. *Chambers:* Owing to excessive rains the season has been unfavorable for gathering, the quality of lint much deteriorated by rot, trash, and dirt; labor scarce, cotton-pickers in demand. *Macon:* The continuous wet weather and scarcity of labor have seriously interfered with gathering the crop. *Shelby:* Fine weather for gathering cotton; the average sale to date of this crop is about $45 a bale of 500 pounds. *Winston:* Protracted rains retarded picking.

MISSISSIPPI.—*Yazoo:* The excessive and continued rains during September and October have caused much rot and retarded picking; at least 50 per cent. of the crop still in the field. *Carroll:* Notwithstanding the very wet season a full crop will be made in this county. *Le Flore:* The long-continued rains of the last three months have injured it to such an extent that it can not make over 60 per cent. of an average crop; picking is backward. *De Soto:* Crop unusually fine; weather indications are favorable. *Claiborne:* Some improvement since last month; season favorable for

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picking. *Winston:* Badly damaged in the field, owing to continued rains. *Tippah:* Very much spotted in some localities. *Hinds:* The yield will be 15 per cent. less than in 1889; if killing frosts do not set in during the next two weeks the bolls of the second growth will mature and bring the average up to 1889 in quantity, not in quality. *Hancock:* Weather very unfavorable for cotton. *Issaquena:* Rains which are now prevailing in this county threaten to reduce estimates 20 per cent.; we have had no harvest weather. At this date last year several hundred bales had been sent to market; this year not twenty bales have been ginned. *Itawamba:* The recent rains damaged cotton 10 per cent. *Lauderdale:* Picking progressing finely. *Union:* Owing to the protracted rain, cotton is damaged one-fourth. *Newton:* Too much rain has retarded picking and caused cotton to rot in the boll. *Tate:* The weather for the past few days has been fine for picking and opening the cotton. *Scott:* Crop about gathered; very light. *Choctaw:* Injured by an overabundance of rain-fall; complaint of rotting in the burr; some never opened. *Jones:* Falling short of expectations. *La Fayette:* The crop promises to be a full average yield. *Lee:* For the past ten days the cotton has been looking better; a killing frost will open the bolls, and if sunshine continues the crop will turn out well. *Neshoba:* Is being gathered rapidly; prospect good for an average yield. *Panola:* Fine crop; lower bolls rotting some; developing a good top crop. *Marshall:* A marked improvement in cotton, the weather having been good for maturing, opening, and gathering. Ten to fifteen points better than last year. *Leake:* The fine weather is improving the character and strength of the cotton. *Lawrence:* Damaged by rot, caused by excessive rains.

LOUISIANA.—*Caddo:* Excessive moisture during the month has retarded picking. Seventy per cent. has been picked since September 25. All cottons are more or less tinged by dirt and stains, and the best, with improved gins, will not class above middling. There will be a loss of 2 to 3 per cent., the result of rain and wind. *Avoyelles:* The yield will not be large on account of its being destroyed by boll-worms. *Pointe-Coupee:* The overflowed lands were planted late; the cotton was late opening; very little gathered; boll-worms destructive, and too much rain. *Sabine:* The first of the season the cotton crop gave promise of fine yield; later the dry weather and excessive rains injured it materially. *Cameron:* The boll-worm has swept the top crop, inflicting the loss of one good picking, or 25 per cent. The boll-worm has come to stay, and it promises more loss to the cotton than the caterpillar. *Richland:* All cotton is late, owing to the unfavorable season, both for cultivation and gathering. *East Feliciana:* Too much rain for picking; hard to gather on account of rust. *Lincoln:* Crop is now two-thirds picked; quality inferior and a great deal of it has rotted in the field. *Natchitoches:* Last ten days have been favorable to cotton-picking; prior to that time picking was greatly retarded, so much so that it will be impossible to gather all the crop made this season. *St. Landry:* About half gathered; weather favorable now for picking. *Concordia:* Late frosts have checked the cotton; crop is very late.

TEXAS.—*Austin:* Increase in bales; yield is better per acre. *Bosque:* Crop has improved during the last few weeks 25 per cent. July and August drought cut it short; September rains have helped it out. *Holmes:* Crop has been injured by wet weather, cotton-bolls rotting on the stalk. *Wharton:* Yield of cotton cut short by continued rains during October, causing the unripe bolls to rot. *Parker:* Has improved during the last month; picking is about over. *Guadalupe:* No frost; crop doing well. *Runnels:* Prospect very good. *Stephens:* Very light, but an increase over last year. *Hood:* Is turning out extremely well; the plant is short, but full. *Waller:* Picking has just fairly begun; too much rain has caused great inconvenience to farmers. *Clay:* Turning out much better than was expected one month ago. *Jackson:* The weather has materially damaged cotton. *Jones:* Much improved by September rains; have had no frost; no worms; season favorable for picking. *Mason:* Will yield about one-third of a bale per acre; lint good and free from trash. *Cherokee:* An off year for cotton; too much rain. *Falls:* Light, ow-

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ing to drought and injury done by the weevil. *Panola:* Seriously injured by rust in some localities; picking retarded by rain, making the lint sandy and injuring the quality. *Grimes:* Excessive rains have damaged the crop. *Frio:* Three hundred pounds of lint to the acre; not all harvested. Fine weather for picking. *Delta:* Great improvement over last year. *Coleman:* Yielding a little better than usual. *Caldwell:* Cotton is all gathered and about marketed. *McMullen:* Top crop a failure. *Johnson:* Weather is favorable for gathering; crop has improved five points. *Webb:* Short, on account of drought. *Limestone:* Looking fine; picking about over. *Collins:* Less than half crop. Very bad season for saving it, owing to wind and rain storms. *Ellis:* No frost heavy enough to injure the cotton; if favorable weather continues a good top-crop will be gathered. *Grayson:* A favorable fall or late freeze will add one-fourth to the cotton crop. *Hill:* Picking has been retarded by wet weather, which will reduce the quality and quantity. *Robertson:* Three-fourths of the crop gathered. *Scurry:* Cut short first by drought, then by boll-worms. *White:* Will be above the average crop; will be late opening unless the weather is very favorable. *Wise:* Still a chance for top-crop of cotton; no frost yet and one more month without frost will considerably improve aggregate yield. *Upshur:* Very little gathered, as rain retarded the picking. *Matagorda:* Cut short by worm and wet weather; will not average 73 per cent. of a crop to the acreage planted. *McLennan:* Rain has delayed picking. *Live Oak:* All picked and ginned. *Kaufman:* Has turned out better than was anticipated, making a top-crop in many instances. *Kerr:* Shortage due to the long continued drought. *Medina:* Last year's average yield was 460 pounds, this year 280; a good many of the cotton bolls have not opened yet. *Montgomery:* The crop is nearly all gathered, ginned, and sold; quality good. *Bastrop:* The weather has been unusually good for cotton; the worm disappeared without much damage after eating off the leaves; notwithstanding this drawback the crop would have been 50 per cent. more could it have been well worked. *Brazos:* About two-thirds gathered; weather dry and cool. *De Witt:* Some improvement in the prospect of cotton, the top or "fall" crop making more, and if the fall continues open the crop will still improve.

ARKANSAS.—*Perry:* Crop fine. *Stone:* Too much rain for cotton. *La Fayette:* Is rotting from excessive wet and cloudy weather; picking progressing slowly. *Baxter:* Injured by boll-worms; maturing well. *Little River:* Weather has been unfavorable for gathering, as dampness has caused it to rot. *Ashley:* Has gained five points since last month; no frost yet; late crop doing well; picking going on rapidly. *Carroll:* Damaged by rain. *Columbia:* It is difficult to give an estimate, as the unfavorable season has been a great drawback to the crop. *Fulton:* Was very promising until the rains set in, which caused it to rot. *Lawrence:* Seriously injured by continuous rains. *Pope:* Is being gathered quite rapidly, and is making a much better crop than was anticipated. *Yell:* Fair weather during the past two weeks has pushed the cotton crop; picking has been going on well. *Izard:* Turning out well; weather fine for saving cotton. *Crittenden:* Much improved. *Drew:* Weather more favorable to growth. *St. Francis:* Gathering an average crop; drought prevailed in many localities; pickers are scarce. *Montgomery:* The rains in September injured the first fruit of the cotton both by retarding its opening and by staining the bolls.

TENNESSEE.—*Carroll:* After the rains set in the crop commenced a fresh growth that formed a top, but contains no cotton that will mature, yet shades the bolls that have already matured, making them slow to open. *Clay:* The season is too short for the crop to mature. *Gaines:* Unusually short. *Monroe:* Good crop, quality good. *Benton:* Extra good; is being picked in fine condition. *Shelby:* Rotted in the field. *Hardeman:* Fine weather for opening; frost very light. *McMinn:* Good quality. *Chester:* Fair crop. *Lauderdale:* Picking progressing since the rains ceased. *Tipton:* Picking retarded on account of damage from rain. *Gibson:* The picking season delayed a month; the wet season and then the sunshine caused the plant to take a second growth. *Haywood:* The improvement in the weather has made the outlook better for cotton.

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POTATOES.

The November returns of yield per acre of this crop are in close harmony with the unfavorable returns of condition throughout the growing season, the October average condition of 61.7 being followed by a return of yield per acre of only 57.5 bushels, with two exceptions the lowest ever reported. In 1881 the yield was 53.5 bushels, the product 109,145,000 bushels; in 1887 the return was 56.9 bushels per acre and the aggregate crop 134,103,000 bushels. The same unfavorable conditions which injured the crop during the early-growing season tended to make the acreage smaller than cultivators intended, the aggregate area being very little greater than in 1887. This fact, with the low rate per acre, makes the actual supply per capita of domestic production of this important food crop smaller than in any recent year, and amply warrants the advance in price now ruling in all markets.

It should not be assumed that the decline in rate of yield during the past ten years, as compared with the preceding ten, indicates any permanent loss of fertility of soil or deterioration of quality of seed. The past decade has contained an unusually large number of unfavorable seasons—seasons of drought or excessive rain-fall or an injurious combination of both, and it is to this recurrence of unfavorable meteorological conditions that the apparent decline in yield is due. With favorable seasons, proper rotation of crops, and a careful selection of suitable land for cropping, a yield as large as any of those during the previous decade can be made. The average yield during the period 1870 to 1879 was nearly 88 bushels, while that of the decade 1880 to 1889 was only about 77 bushels, yet during the last period there were two years when the cut-turn exceeded 90 bushels.

During recent years we have occasionally imported potatoes from Scotland and Canada in considerable quantities to eke out the deficiences of our own domestic supply. The magnitude of these imports of course depends upon the range of prices warranted by the scarcity or abundance of the domestic supply, and these points are presented in the following statement covering the period of the last five years. The exports are of course for the fiscal year following the calendar year of production.

Year.	Production.	Farm price December 1.	Imports.
	Bushels.	*Cents.*	*Bushels.*
1885	175, 029, 000	45	1, 937, 416
1886	168, 051, 000	45	1, 432 490
1887	134, 103, 000	69	8, 259, 538
1888	202, 365, 000	40	883, 380
1889	190, 000, 000	40	3, 415, 578

A final statement of the crop of the present year can not yet be given, but the indicated yield with the preliminary return of acreage

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makes an apparent production of less than 140,000,000 bushels. Under ordinary conditions this would indicate a large importation, but the recent change in customs duties may check it.

The October returns served to show the practical failure of the crop in many sections in the Western States and gave evidence of an increasing tendency toward rotting east of the Alleghany Mountains. In New England the yield was fairly abundant, the deterioration of the crop setting in after growth was over.

The present returns emphasize the damage from rot in this section, resulting from an excess of moisture at time of harvest. In many counties the damage is not confined to decay of tubers in the field, but continues in the cellar. In Aroostook County, Maine, a large center of production, our correspondent estimates that 20 per cent. of the crop has rotted, but adds that "the loss to farmers has been light, as the affected ones have been sent to starch factories." In Broome County, New York, the correspondent avers that not more than 10 bushels of sound potatoes per acre have been gathered, and from many other sections of the State similar discouraging returns are made.

The record of the year may be summed up as a crop of very limited proportions and of somewhat inferior keeping quality in the eastern districts where the actual yield was largest.

FRUIT.

The season has been the worst for fruit that this Department has ever reported. The extraordinary mildness of the winter, causing winter blooming and great tenderness of bud growth, rendered the frosts of March almost universally destructive. Peaches have been almost unknown in the great peach-growing sections, and apples are a rarity in the great apple-producing sections. The Missouri River bluffs, and contiguous areas, furnish the principal supplies which go to all parts of the country. The Ben Davis varitey, which some people regard as better than nothing, is the mainstay of many markets. Pears have been almost equally scarce, and necessarily high in price.

This dearth of fruit has brought into unusual prominence the products of California, which must always be considered separate and apart from the remainder of the country. Millions have gone into the coffers of producers of California peaches, plums, grapes, and citrus fruits. The raisin industry is driving Spanish raisins out of the country, and the olives of the Pacific coast are competing with those of Spain.

The Florida orange crop is reported to be about two-thirds of a full yield.

Pine-apples, bananas, guavas, and other subtropical fruits are increasing their areas.

It should be admitted that grapes are fairly abundant, and prices reasonable.

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OTHER CROPS.

Hay.—The season was in the main favorable for the hay crop. The mild, open winter insuring an early, vigorous start for all kinds of grasses, and the general abundance of moisture during spring growth resulted in a heavy crop in the districts of principal production. The consolidated returns make the average yield per acre for the whole country 1.20 tons, a figure slightly above the average of the past decade.

Buckwheat.—The yield per acre of buckwheat is the largest reported for any year during the past decade, with the exception of last year. It averages 14.5 bushels upon an area slightly larger than last year.

Tobacco.—The November returns from the tobacco districts make the estimated yield per acre 718 pounds, a return somewhat below the aver age for the last decade but higher than that of last year. It is better in Maryland and Virginia, and slightly smaller in Kentucky.

Sugar.—The cane sugar crop will be a large one, and sugar-beets have done well west of the Missouri, indicating a probable rapid development of the sugar industry. The sorghum crop has made a small yield, except in the South. Kansas, the favored region for sorghum-growing, reports a poor yield, and Nebraska still smaller. When corn is poor sorghum is likely to be but little better.

NOTES FROM REPORTS OF STATE AGENTS.

MAINE.

The weather during October has been very favorable for late harvesting and the performance of fall work on the farm. There has been but little cold weather and the rain-fall has been normal. Corn is somewhat below the average in yield on account of late planting in the spring, much unfavorable weather and poor weather in September for ripening. A large percentage is soft and of second quality. There has been a large yield of potatoes, but they have rotted and are yet rotting badly. In Aroostook County great quantities that were stored for spring shipment have been taken from the cellar and sold to the starch factories. Late planted potatoes have been most affected; where they were dug early, before the tops were much injured by rust, they have not rotted. The yield of hay was large and the quality excellent.

The apple crop is almost a failure, although in exceedingly rare instances good yields are reported. There is not above one-fourth of a crop of average years, and the quality is low. The ravages of the *Trypeta pomonella*, or apple maggot, are nearly ruining the apple crop.

NEW HAMPSHIRE.

The corn crop is large and the quality generally good, although it has suffered somewhat from wet weather. An unusually good yield of potatoes is reported, but the crop has been badly affected by rot, both before and since harvesting. The yield of hay varied considerably in different counties, but averaged good, while it has seldom been gathered in better condition. Buckwheat is somewhat better than an average in yield and the quality is fair. The fruit crop is poor in all sections of the State, and the price of apples has been much enhanced in consequence.

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VERMONT.

Corn has come in better than was expected. The rain in some counties has injured it to a slight extent when cut a little green, but as a whole it is well harvested and of good quality. Potatoes are of very fine quality. Buckwheat estimates show a generally good crop and excellent quality. Apples and pears are of inferior quality generally, and in some sections wormy, moldy, and of small size.

CONNECTICUT.

The growth of corn was very good and it ripened well, but excessive rain in October has somewhat reduced the quality. Potatoes grew well and the quality is superior, but the rot has seriously diminished the crop. Tobacco made the finest growth for years and was harvested in good condition. The only danger is from possible pole-sweat. The substitution of Havana for Connecticut seed leaf reduces the yield per acre. The hay crop, which was very large, was secured in excellent condition.

Buckwheat sprouted some in the field, otherwise a good crop—mostly Japan—was harvested. Owing to the large size of the kernel there is difficulty in cleaning it in common fanning-mills.

NEW YORK.

The three best crops of the past season have been wheat, buckwheat, and grapes. The season has been too wet and cold for good tillage or growth, and these conditions have made a great deal of poor corn and prevented late planted from maturing well. Much of the late-planted and that upon wet ground is soft, or the ears are short, with the tips poorly filled out. For these reasons the yield averages light. On dry and early land the corn is sound and well eared. A considerable portion of the crop is still in the fields, as the land has been too wet to admit of its being hauled off, and this excessive moisture has kept the stalks from drying. During the month of October it rained fully one-half of the time.

The yield of potatoes has been very light. It is estimated that half of the crop this year has rotted, and in some fields on wet land the entire crop. The loss is mainly confined to the late planted or the late varieties. The long-continued and warm rains in September caused rapid development of blight, which produced an immediate dry-rot and changed the bright hopes of farmers to disappointment and loss. There are large numbers of small potatoes and so many defective ones that the quality is rated very low. In some instances the potatoes have had to be taken out of cellars on account of rot, and for a time, early in October, shippers would not buy them. Such a universal loss has not occurred since 1849–'50.

The yield of tobacco is good, as the frosts held off until late in October and there was time for a full growth. Hay was never better in quality, and the yield was well sustained on account of the abundance of moisture during the season of growth. Buckwheat is the best paying crop of the year. There has been considerable loss by delay in harvesting, but the yield has been large. Grapes have yielded bountifully and have universally ripened; on wet lands they mildewed some, but on the whole this crop has been the most remunerative of any of the fruits and filled a public want. Apples are the lowest in yield, as thousands of orchards have produced scarcely any and some none at all, even in the famed apple-districts. Pears have yielded much better.

PENNSYLVANIA.

Owing to the unusually wet fall much corn is yet in the fields and unhusked. The yield is good, but the quality rather low. Some has molded in the shock. Potatoes are rotting and, owing to the rains, many are yet in the ground. Tobacco is somewhat injured by high winds and storms, reducing the proportion of wrappers. Much of the buckwheat is still out and injured by the wet weather.

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VIRGINIA.

Corn, so far, has yielded better than last year and the quality is better, though a good deal of mold is reported in corn in the shock.

The average yield of Irish potatoes was much lowered by the comparative failure of the late crop. There is much complaint of potatoes rotting. Sweet potatoes have done well. Tobacco is better and heavier than last year. Cotton is reported good. Small fruits generally poor, although the apple crop is very good in a few counties.

NORTH CAROLINA.

October has been very favorable for the farmer; in fact, the seasons generally have been good. The corn crop is exceptionally fine. The yield of sweet and Irish potatoes is good, but they are not keeping well in many counties.

Frost, sufficient to kill, was not reported until October 25, enabling tobacco-growers to get in their crop, which cured satisfactorily bright. Cotton picking is well advanced, but labor is reported scarce in a few counties. The sorghum industry is increasing and is a paying crop.

SOUTH CAROLINA.

Notwithstanding the injury to early corn by drought in August and to late corn by excessive rains in September, the crop was a good one—both the yield per acre and the quality being above the average of ordinary harvests.

In the eastern counties tobacco is becoming an important crop. The area has been greatly increased during the last three years, and the results, both as to grade and product, are entirely satisfactory. The soil in the section of the State alluded to is particularly well adapted to the production of bright leaf, which has been made a specialty with profitable results.

Cotton has passed from good to bad and bad to good with more than the usual number of changes in a season. The increased area and the exceedingly bright prospects early in the season gave promise of abundant yield. The unfavorable effects of the July rains were apparently overcome by more favorable weather in August, so that at the end of the latter month a full crop was expected. September opened unfavorably and the excessive rain-fall during that month proved very injurious. Sprouting in the bolls was common in every section. Much of the lint was beaten out by wind and rain and part of the staple was thereby discolored and depreciated in value It is safe to say, however, that the yield per acre will exceed that of last year, and the total production, for this reason and because of increased area, will exceed that of 1889.

The cotton crop of South Carolina yields about 300,000 tons of seed. Probably 75,000 tons were sold to the oil-mills last year at high prices. The wet weather this year damaged the seed largely, and they have been coming to the mills in bad condition. From this and other causes affecting the oil-mill business the price of seed has been greatly reduced, and the income of the farmers from this source will be materially lessened unless future shipments show a decided improvement over early receipts. The cost of cotton production has been less than last year, the food crops of 1889 having been more abundant, thus reducing the quantity purchased for home consumption.

GEORGIA.

A killing frost occurred October 31, thoroughly destroying all tender vegetation and effectually checking any further development of cotton bolls, potatoes, cane, etc. The frost was repeated on November 1, 2, and 4, and gives us the earliest fall in many years.

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Excessive damp and rainy weather has materially reduced the quality of Indian corn left standing in the field. The season was very unfavorable for gathering the cotton crop on account of the rainy weather. There has been an unusual and largely unsatisfied demand for cotton pickers even at 25 to 50 per cent. advance in wages over the customary rates per hundred.

LOUISIANA.

The average yield of corn is satisfactory, but in quality is not as good as anticipated, owing to continued rains which prevailed during the greater part of last month. This caused delay in gathering the crop and consequent damage. There is considerable complaint of the weevil, which seems to be more numerous this season than for several years past.

Irish potatoes were marketed in good condition generally. The very early crop did not yield as usual, but the main plantings were a full average and prices satisfactory. Sweet potatoes are not generally harvested at this date, but farmers will begin at the first indications of a killing frost. The area planted is somewhat larger than usual and the condition generally excellent. The yield where they have been dug is satisfactory.

Tobacco is some points below an average both in quantity and quality. The acreage in this crop has been heretofore small, but from present indications it will be largely increased next year. Hay was considerably damaged by rain. The tonnage is fully as large as preceding years, but the quality is not so good.

It seems to be the prevailing opinion among farmers that the final outcome of the cotton crop will fall considerably below the anticipations of October 1. Late cotton, especially that on land previously overflowed, has remained green and succulent; hence a heavy frost early in the season would cut off the final yield. The boll worm this year has caused considerable destruction; rust also has prevailed and excessive moisture at a critical period did a vast amount of injury to one of the most promising crops ever seen in Louisiana. County correspondents report much trashy and sanded cotton.

Sorghum produced this year an unusually large tonnage, which has been mostly cured for fodder. Very little is used for making sirup. Sugar cane has continued to improve throughout the past month. The present crop is generally estimated to be as large as was ever grown in the State. Grinding is now in active operation and the yield both of sugar and molasses is eminently satisfactory both in quality and quantity.

Oranges are in moderate supply with prices tending upward. A largely increased area in strawberries, also winter and early spring vegetables are being planted. Louisiana onions having been nearly a total failure this season, the future crop will necessarily be grown from Bermuda seed.

TEXAS.

The average quality of corn is good, but the yield, owing to the long continued drought, is small. It is comparatively scarce and is selling readily at 75 cents per bushel, with a tendency to higher prices, and will probably reach one dollar per bushel.

ARKANSAS.

The past three weeks have been quite favorable for all farm work. As harvesting progresses it is ascertained that there is some increase in yield over former estimates, and also improvement in point of quality as well.

The corn crop is something over half an average one, while the quality as a rule is very inferior. The same may be said of Irish potatoes. Sweet potatoes indicate a fair average crop, both in yield and quality. The tobacco crop is nearly an average

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one, while the quality is well maintained. The hay crop is also about an average one, and as a rule was saved in excellent condition.

There has been a marked improvement in the yield and quality of cotton during the past month, and should the present favorable weather continue for the next twenty days, with occasional frosts, the "top crop" will have matured in good condition, which will bring up the average to that of former years. There was some complaint of rust, stained and trashy bolls, in the pickings immediately after the wet spell last month, but the damage in that direction was not serious except in a few localities.

Sorghum in point of yield is nearly up to the average of former years, while the quality of the sirup is rated from "fair to good."

Grapes are about three-fourths of an average crop; apples about one-half, and quite inferior in quality. The same may be said of pears.

TENNESSEE.

The long-continued dry weather of midsummer materially reduced the yield of corn, and the wet weather, following immediately after, injured the quality, causing rot and smut to such degree as to diminish the available product more than half in many localities. Irish potatoes made a moderate crop in some sections, while in others they were a total failure, so that probably not half a crop will be harvested. This is due, in a great measure, to the dry weather of July and August which came on soon after the second crop was planted. Sweet potatoes made a fair yield and are of fine quality.

Tobacco is far below an average crop in quantity. The quality is good, though late rains and fear of early frost, by inducing farmers to cut too early, may lower the grade somewhat. The same may be said of sorghum as to quality, but the yield is fair. Hay is generally fine both in quantity and quality; in fact hay and sorghum are the only crops grown all over the State that will approximate anything near an average. Cotton picking was much delayed, and the first opening and lower bolls considerably damaged by the rains of September and October, but the weather is now very favorable and picking is being pushed to the utmost limit. The crop will doubtless be larger than last year and the grade better.

The season has been peculiarly unfavorable for fruit of all kinds except grapes. There is not a half crop of apples and less than a fourth of pears.

KENTUCKY.

Corn has been damaged by falling and the ear coming in contact with the wet soil, causing rot or softening of the grain. The warm, sultry weather during the early cutting season, combined with the very sappy condition of the plant, has caused a great deal of "house burn" in tobacco. The full extent of the injury can not be determined until stripping and assorting have been completed, but the complaint is almost universal with tobacco-growers.

Hay is better than for many years, having cured sweet and bright. There has been no serious damage to any crop by frost. The fall seeding of wheat is over and most of it is up and looking well. Seeding averaged fully ten days late on account of rain preventing the preparation of the soil.

OHIO.

The condition of corn is peculiar. In the Miami Valley and in the western counties the effect of the drought was disastrous. The heavy rains of September started the growth of late corn and the ears will be immature and soft. In the Scioto and Muskingum vallies and eastern counties the corn is of better yield and quality. There is more corn in the shock at this time than for many years past. It is not husking out as well as was expected, there being too many barren stalks, and the quality is

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damaged by being put up too green. The fodder is badly damaged in shock by the heavy rains after cutting.

The potato crop is light and of inferior quality. The September rains started second growth and rot in many places—notably northeastern Ohio. Late tobacco is sappy and was cut late, but there was no frost to injure. The hay crop was large and was gathered under the most favorable circumstances. There will be some damage to hay in the stack by reason of the heavy rains. The acreage of sorghum is becoming less each year.

MICHIGAN.

The corn crop is quite difficult to estimate. Some sections report a fair average crop; others almost a failure. The northern counties have been most favored and report generally a fair crop, while the central counties give a better report than the southern. On account of extreme wet weather husking is much delayed and corn fodder has suffered more than for years past.

The potato crop of the northern counties is large comparatively and of good quality. The later varieties have been much benefited, by late rains all over the State, and the yield is somewhat larger than was looked for at date of last report.

INDIANA.

The yield of corn is much better than was expected September 1. Several counties report a high average yield, while in others it is light. The hay crop is one of the largest and best ever grown, and was harvested in fine condition. The apple crop is the lowest in yield for several years, and the same is true of pears.

ILLINOIS.

Corn is yielding better than was expected, though there are fields here and there that are disappointing. In many of the central counties the yield will be more than three-fourths of an average crop and the quality a full average. Excessive rains in May and June greatly interfered with the planting and cultivation of the crop in several of the northern and many of the southern counties. In these sections it is very short in yield and the quality below an average. The crop of Irish potatoes is nearly a failure—many correspondents reporting it as the lightest ever known.

WISCONSIN.

Reports of correspondents agree that all corn which was well cultivated produced nearly an average crop both as to quantity and quality, but the preponderance of poorly cultivated ground lowered the average materially. Potatoes are a poor crop both in quantity and quality. The yield is very uneven, some areas producing as high as 250 bushels to the acre and some as low as 20. The hay crop is the best in quality for years.

MINNESOTA.

The weather has been favorable for the farmers during the month of October, hence a large area of land has been plowed for next spring's seeding. The average yield of corn is less than last year. Such is the case, too, in regard to potatoes, but the quality of the latter is the best for years. There is a slight decrease in the average yield of buckwheat. The product of sorghum sirup is about the same as last year. Grapes and apples are more than an average crop. All farm work is well advanced.

IOWA.

Corn gathering began two or three weeks later this year than usual, owing to the condition of the crop and to the rainy weather. The weather now is favorable, and corn is being cribbed in better condition than was anticipated. More than the usual amount has been cut for fodder. The hay crop, although not large, is unusually good. There is a large amount of flax straw in the northern part of the State, and much of it will be fed to stock.

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Potatoes will not give more than half the average yield, principally on account of the drought and hot, dry atmosphere about the time the tubers were forming. A new kind of potato-bug is reported to have done serious injury to the crop in one locality. Apples are less than half the average crop.

MISSOURI.

Only a comparatively small part of the corn crop has been cribbed. The yield so far is not as great as was anticipated a month ago. The ears are not well filled and considerable of the later planted was caught by the frost and is chaffy. More than the usual amount was cut and shocked, and in the southern portion of the State, where excessive late rains have prevailed, much of it is being damaged. That allowed to stand has been badly blown down, and is also being injured. Throughout the southern portion of the State the corn-worm has been unusually injurious. Some complain that the corn is so badly infested with the worms as to be injurious to stock eating the grain.

Irish potatoes are a very light crop; in many counties almost a complete failure, and already shipments are being received from other States. The very limited acreage planted late will make a fair yield, but they seem much inclined to rot. Sweet-potatoes were a fair crop in yield and quality. Tobacco is below the average in yield and quality It suffered from a drought that prevailed early in the season; was late in starting, and a considerable portion of the crop was caught by an early frost.

Hay is light in yield, but generally of a good quality, having been cured without damage by rain. Buckwheat was sown late and much of the crop was damaged by frost. Cotton is being injured by recent rains and picking is delayed.

All fruits suffered from the late spring frosts. Apples are a short crop, yet a large quantity are being shipped from the State. The coddling-worm did much injury, and complaint is made that the fruit does not keep well.

CALIFORNIA.

Hops have been a fair medium crop, of excellent quality, and growers expect about 35 cents per pound for them, which will make them very remunerative. Beans are gaining in importance every year as a staple crop, and the product has been a full average. The crop of peaches, apricots, cherries, plums, and prunes has been about 75 per cent. of a general yield, the deficiency being caused by the unusually wet winter. The deficiency, however, has been fully made up by the higher prices obtained for the fruit.

Figs are becoming more and more prominent, and promise to be one of the leading fruits of the State. Almonds and walnuts have produced a good crop, and are very remunerative to the producer. Oranges and lemons promise a full crop, and as the crop of this State comes in just when that of Florida goes out, it bids fair to be a very paying industry, while the introduction of the Australian lady-bug has placed the industry on a safe footing.

The grape crop has turned out better than was expected and the product has been very fine. The vintage may be put down at 18,000,000 gallons, while large quantities of wine grapes have been dried, and the raisin crop will exceed that of last year. Better prices have been paid for wine and table grapes—the latter to be shipped east—and the increase in this respect may be put at one-third over last year. The young wines are exceptionally fine, and the vintage of 1890 may be put at one of the best ever produced in the State. While the quantity will not be above the average, taking into account the ravages of the Phylloxera and southern grape disease, defects in cultivation, etc., the quality will range higher than any of the previous years.

SOUTH DAKOTA.

The yield of both corn and potatoes when harvested was disappointing as to quantity, while the quality was about all that could be desired. The long-continued drought, commencing July 15 and lasting until October 17, shortened both crops.

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The stand of stalks in the corn fields was excellent, but lack of moisture when the ears were forming checked the growth or prevented their formation altogether. Late-planted and poorly worked fields suffered far more than that planted earlier and well cultivated. The same is true of potatoes—the early planted yielding much the best. The yield of corn-fodder was good, and it has been secured in good order.

Up to October 17 the dry weather delayed plowing. Since that date timely rains have put the soil in better condition, and farmers are completing their fall plowing.

The fall has been unusually free from frost; the first, a light freeze, occurring on the 29th of September.

Table showing the estimated yield per acre of crops November 1, 1890.

States and Territories.	Corn.—Average yield per acre in 1890, stated in bushels of shelled corn.	Potatoes (Solanum tuberosum).—Average yield per acre in 1890, stated in bushels.	Potatoes (Batatas edulis, sweet).—Average yield per acre in 1890, stated in bushels.	Tobacco.—Average yield per acre in 1890, stated in pounds.	Hay.—Average yield per acre in 1890, stated in tons.	Buckwheat.—Average yield per acre in 1890, stated in bushels.	Cotton.—Indicated yield (lint) per acre, in pounds.	Sorghum.—Average yield per acre in 1890, stated in gallons.	Sugar-cane (not sorghum).—Indicated product compared with last year.	Grapes.—Product compared with an average crop.	Apples.—Product compared with an average crop.	Pears.—Product compared with an average crop.
Maine	36.0	95	....	.....	1.00	20.0	....	....	....	85	45	77
New Hampshire	36.5	90	....	.....	1.05	18.0	....	....	....	83	40	74
Vermont	32.5	95	....	.....	1.08	20.0	....	....	....	70	45	46
Massachusetts	34.5	87	....	1,850	1.00	17.5	....	....	....	82	27	56
Rhode Island	30.0	90	....	.....	1.12	....	....	....	....	60	20	33
Connecticut	35.7	80	....	1,600	1.20	14.7	....	....	....	40	18	24
New York	25.3	62	95	1,100	1.25	15.5	....	....	....	85	26	31
New Jersey	31.3	76	112	.....	1.30	14.0	....	....	....	50	20	29
Pennsylvania	27.5	68	79	1,226	1.25	13.5	....	....	....	63	14	19
Delaware	18.5	70	112	.....	1.20	....	....	....	....	80	18	15
Maryland	23.3	70	116	620	1.25	12.0	....	....	....	71	26	22
Virginia	17.5	68	101	700	1.27	9.5	168	90	....	63	32	28
North Carolina	13.3	73	114	560	1.35	11.0	182	94	....	80	40	29
South Carolina	10.2	63	108	.....	1.37	....	175	76	98	71	41	48
Georgia	10.5	72	82	.....	1.35	....	165	86	107	79	40	40
Florida	9.3	75	101	.....	1.28	....	108	....	105	51	....	82
Alabama	10.2	67	102	.....	1.25	....	160	99	114	74	40	36
Mississippi	12.5	61	93	.....	1.30	....	200	70	112	75	22	17
Louisiana	16.0	63	106	.....	1.30	....	238	95	107	58	....	22
Texas	15.5	67	96	.....	1.00	....	196	84	108	62	30	24
Arkansas	15.7	60	103	.....	1.10	....	225	77	....	76	50	27
Tennessee	18.4	62	98	655	1.15	10.0	191	94	....	82	41	33
West Virginia	20.0	58	118	600	1.15	12.0	....	101	....	48	15	....
Kentucky	22.6	33	87	673	1.25	....	....	86	....	69	25	21
Ohio	20.7	46	91	930	1.30	12.0	....	97	....	70	13	26
Michigan	26.7	58	....	.....	1.25	16.5	....	....	....	85	39	54
Indiana	24.3	37	82	582	1.30	15.0	....	70	....	73	28	31
Illinois	25.0	30	79	600	1.30	14.5	....	91	....	79	33	43
Wisconsin	29.3	60	....	1,102	1.25	14.3	....	97	....	83	55	61
Minnesota	27.7	68	....	.....	1.35	12.8	....	93	....	75	70	....
Iowa	26.0	48	83	.....	1.20	14.2	....	83	....	82	69	50
Missouri	25.8	39	87	780	1.20	13.2	....	94	....	75	55	50
Kansas	11.3	28	75	.....	.80	10.7	....	53	....	71	60	43
Nebraska	20.3	27	56	.....	.85	12.0	....	65	....	73	59	30
California	28.3	95	114	.....	1.40	....	....	....	....	95	79	87
Oregon	21.6	100	....	.....	1.50	16.0	....	....	....	91	80	94
Nevada	....	95	....	.....	1.20	....	....	....	....	....	....	40
Colorado	18.2	73	....	.....	1.37	....	....	....	....	80	75	50
The Dakotas	12.7	45	....	.....	.86	....	....	....	....	75	40	....
New Mexico	20.0	80	....	.....	1.13	....	....	....	....	85	70	83
Utah	21.0	85	....	.....	1.38	....	....	98	....	89	54	56
Washington	....	115	....	.....	1.40	....	....	....	....	80	87	88
General average	19.9	57.5	....	718	1.20	14.5	187	....	....	....	....	....

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A DECADE OF WHEAT EXPORTS.

The fluctuations of exports of wheat are abrupt and wide, and the causes of change are clear. The largest exportation, not only in the period but in the history of the trade, was in 1880–'81, amounting to 186,321,514 bushels (wheat and flour), or three-eighths of one of the largest crops. In 1888–'89 the exportation, the smallest of the decade, was only 88,600,743 bushels. The second year of the ten witnessed a drop of 64 million bushels, while a rise of 26 occurred the next year. Then a fall of 36 is noted, a rise of 21, another drop of 38, and a jump of 59, the seventh year of the series ranking in volume next to the first. In the following year the decline was 34 millions, and in the next 31 more, the only instance of two successive seasons of decline.

The following table indicates the course of these changes:

Years.	Pacific ports.		Atlantic ports.		Total wheat.
	Wheat.	Flour.	Wheat.	Flour.	
	Bushels.	*Barrels.*	*Bushels.*	*Barrels.*	*Bushels.*
1880–'81	24, 703, 774	976, 766	125, 861, 703	6, 969, 020	186, 321, 514
1881–'82	43, 004, 486	1, 373, 098	52, 267, 316	4, 542, 588	121, 892, 389
1882–'83	27, 713, 319	1, 443, 867	78, 672, 509	7, 761, 797	147, 811, 316
1883–'84	22, 766, 198	1, 621, 753	47, 582, 814	7, 530, 507	111, 534, 182
1884–'85	32, 397, 047	1, 532, 151	52, 256, 667	9, 115, 994	132, 570, 367
1885–'86	26, 074, 462	1, 396, 435	31, 684, 747	6, 782, 806	94, 565, 794
1886–'87	24, 857, 309	1, 402, 705	77, 114, 640	10, 115, 744	153, 804, 970
1887–'88	20, 739, 672	1, 267, 508	45, 049, 589	10, 696, 066	119, 625, 344
1888–'89	29, 468, 720	1, 411, 900	16, 945, 409	7, 962, 903	88, 600, 743
1889–'90	27, 456, 908	1, 605, 073	26, 930, 859	10, 626, 638	109, 430, 467
Total	279, 181, 895	14, 031, 256	554, 366, 253	82, 104, 063	1, 266, 157, 086

The aggregate of production, as estimated, for these ten years is 4,496,953,588 bushels. It is 450,000,000 bushels per annum, discarding fractions. Of this nearly 127,000,000 constitute the annual exports. The average exportation has therefore been 28.2 per cent., though in the first year of the decade, 1880–'81, the exports were 37.4 per cent. of the product. These exports will continue to decline in proportion, and even in volume, as population increases and grain production is extended in competing countries which are not developing so rapidly in general industry.

Now, the reader may ask, is this fluctuation, which is a marked feature of this table, due more to variable foreign demand than to changes in home production? Is it due to the Liverpool demand or the home demand? To both, but in far larger proportion to the home demand, which must be met at whatever cost. There is wider annual fluctuation in the production of the United States than in the combined production of other countries. In 1880 there was a surplus over home requirements of at least 200 million bushels; in 1888 the surplus from the crop, according to the estimate, was only 69 million bushels, trench-

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ing on prior reserves 19 million bushels to eke out the actual sum of exports, which were less than half those of 1880–'81. The foreign trade was cut down inexorably by the requirements of home consumption. When our wheat shall all be required at home there will be no exports, as prices will be permanently higher here than at Liverpool, as they have been occasionally heretofore, temporarily checking exportation.

Another peculiarity of the history of our wheat exportation is the changing proportion of wheat and flour. In twenty-five years, from 1825 to 1850, the sum of wheat exports in the form of grain was only 15,714,039 bushels, while the exports of flour were equivalent to 162,731,805 bushels of wheat. It was shipped as flour almost exclusively. In 1859–'60 the wheat shipments were 4,155,153 bushels and the flour equal to 11,752,182, and in the ten previous years the wheat had been about 52,000,000 bushels and the flour 125,000,000 bushels.

At this date a great change occured. It was a day of revolution, industrial and commercial, as well as political. For four years the average shipments of wheat exceeded 32,000,000 bushels, and of wheat both as flour and grain over 51,000,000 bushels, grain largely predominating each year. A sudden decline occurred at the close of the war, and for 1867–'68 flour again predominated. During the decade following 1860 the extremes of annual exportation ranged from nearly 12,000,000 to over 59,000,000.

The extraordinary increase of foreign demand between 1870 and 1880 dazed and dumbfounded both farmer and grain dealer, and excited in both the craze to supply "the markets of the world" with wheat. In thirty-five years, 1825 to 1860, there had been 378,340,302 bushels of wheat exported; and in two years, from the crops of 1879 and 1880, the exports were 366,625,694 bushels.

A partial failure of crops in western Europe for several successive years caused a large portion of this demand. Not only American growers, but those of Australia and India and South America, were aroused to competition for the great demand of which they vainly assumed the continuance. The acreage had been doubled in fifteen years in this country. In five years the record of the Statistician was as follows: "The expected has arrived. The prediction has been fulfilled. Wheat was in 1885 at the lowest figure in England for one hundred and twenty-five years." Following better yields in Europe the imports of wheat declined, and have never since equaled the figures of those years of scarcity. The reduced product of the present year in this country and some others, and diminished stocks of grain in the principal foreign markets, have already advanced prices materially, which will continue fairly remunerative until a reduction is again compelled by increasing stocks and products.

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STATISTICS OF COLOMBIA.

This country, embracing the northwestern portion of South America and extending south beyond the equator, contains an area of 504,773 square miles, and a population of nearly 4,000,000, or more than two-thirds that of the United States before the purchase of Louisiana, as to both extent and people. Including a part of the Andes, it is distinguished as mountainous, but has extensive table-lands in the interior, and a considerable extent of alluvial area along the Magdalena River and the coast. Generally, in topographical features, soil, climate, and productions, it is similar to its neighbors, Venezuela and Ecuador. Its principal connections for foreign trade are through the Magdalena River and Lake Maracaibo, not considering the transit trade across the isthmus. It produces for export coffee, cacao, cinchona, dye-woods, sugar, hides and skins, fruits, rubber-gum, ivory-nuts, etc., and, like Venezuela, is rich in mineral resources, valuable woods for house furniture and finishing, and medicinal plants, some of which are of an importance not yet sufficiently appreciated (as that not long since discovered to be a specific for cholera infantum), and all of which are certain to be of continuous commercial interest. The climate is so salubrious generally in the interior, and so hot and unhealthy except for those acclimated along the coast and lower river courses, as to have escaped, apparently, thermometric record. The government is similar to that of other Spanish American Republics modeled to an extent upon that of the United States.

Colombia publishes no information of value concerning its industrial or commercial activities, as it is not sought for by the people, and what is obtained must be found in the records of countries doing business with her or by personal observation. Bogota, the capital, lies inland about 250 miles, on a table-land about 8,500 feet above the sea, and can never feel strongly the pulse of the world except through an international railway connection.

INTERNAL COMMUNICATION.

The roads of Colombia are mostly mule-tracks and donkey-paths, but for some years soldiers have been employed in improving the principal routes. Three lines of railway are operated, of 148 miles length, and five others are nearly completed. But the Magdalena River is the great highway of the country, however, and with six of its tributaries is like to remain so indefinitely. It is in places wider than the Mississippi, with a strong current, and is navigable for 600 miles from Barranquilla by steamers of sufficient capacity to accommodate trade. It flows northward, as the Mississippi does southward, and the mouths of the two great rivers are only 1,020 geographical miles apart on north and south lines. One will carry cheaply to a great seaport the de-

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veloped productions of a rich tropical country demanded by this; the other will carry cheaply also to a greater sea-port the agricultural products of the great valley of the Mississippi, with its twenty States, an increasing amount of which are necessary for tropical markets. Other rivers, as the Zulia, communicate with Lake Maracaibo, and carry a large amount of Colombian coffee and some cacao to its important market.

For international intercourse there are seven lines of steamers, besides sailing vessels and an occasional tramp. Of these 59 are British, aggregating 114,686 tons, one line at least being paid $109,943 per year by the British Government; 17 French, of 57,300 tons, supposed to be subsidized; 13 German, of 18,532 tons, and 10 Spanish, of 15,653 tons; in all 99 steam-ships, of 206,171 tons, not one of which carries our flag or is interested in subserving our interests, and few of which touch at our ports.

THE PANAMA CANAL.

The attempt to construct an interoceanic canal across the isthmus, 46 miles long, after an expenditure of $154,509,082, and an unsuccessful attempt to raise a new loan, and then to form a new company, was suspended on the 15th of March, 1889. The old company went into liquidation, and the project of a canal at that point is not likely to be revived in the near future.

PRINCIPAL PRODUCTIONS.

Coffee is the principal article of plantation production. According to a report made in 1887 by Consul-General Walker, then of Bogota, to the Department of State, Colombian coffee is produced almost solely in the departments of Cundinamarca and Santander, which have a population of 1,124,600; but Boyaca, lying between them and having over 700,000 inhabitants, has recently become an acknowledged producer. Cundinamarca was estimated to have 3,000 acres (nearly 5 square miles) of plantations, producing 5,000,000 pounds, and Santander over 11 square miles, producing 12,000,000 pounds. Of the whole amount 10 per cent. was supposed to be used in the country, leaving 15,300,000 pounds for export. This estimate of production is evidently too low, as the United States imported from Colombia 10,893,354 pounds during the year ending June 30, 1888, and England over 5,275,000 during that calendar year, which together exceed it, while a small amount also was sent to other countries; and during the year ending June 30, 1889, the imports of coffee from Colombia into the United States alone amounted to over 16,000,000 pounds. The three departments mentioned as most suitable to produce coffee have an area of 160,000 square miles; and of this if one-fiftieth part, a low proportion, is suited to coffee production, the possibilities of this area, even at the low rate given by Mr. Walker, promise a future supply of nearly six times the amount at present annually consumed in the United States, which is 578,397,454 pounds for 1889. In fact, coffee growing in Colombia, Venezuela, and other States

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and islands whose ports are 1,500 miles and less from ports of this country, has practically no limit except that caused by want of labor; this is proportionally true of Colombia; and for obvious causes coffee-producing countries will not become competitive nor usually self-sustaining in such food products as they now regularly draw from other climes.

Until recent years cinchona was the second in importance of Colombian productions, but exports have greatly decreased. The value of shipments to the United States, England, and France in 1879 was $5,740,000, of which $2,082,000 worth came to this country, against $11,826 worth in 1889. Hides and skins now hold second place, the export value in 1888 being $1,364,000; shipped to the United States, year ending June 30, 1889, $927,866. Other products of plantations, for export, are cocoanuts, cacao, bananas, sugar, and tobacco, and occasionally cotton and corn. India-rubber, vegetable ivory, dye and other woods, and gold and silver are also exported, but it is difficult to find in what amounts. The principal products for home use are, besides some of those named, rice, yucca, yams, sweet potatoes, Egyptian corn, many of the garden vegetables known to us, and the various tropical fruits; and besides domestic animals and fowls there is an abundance of game and excellent fish, with green turtle *ad libitum*. The latest census of farm and range stock gives the following numbers:

Kinds of stock.	Number.	Kinds of stock.	Number.
Neat cattle	949,072	Goats	610,147
Horses	140,735	Swine	343,542
Mules	41,520	Sheep	41,696
Asses	13,090		

In addition to these there were 58,280 horses, mules, and asses returned without seperate enumeration.

Of the rice produced, in the region of Cartagena, our consul reports that the berry is so small that machinery has not been secured with which to successfully clean it. Some wheat is grown on the high lands, but it is not popular because its flour can not be made into light bread. As to cereal cultivation generally, the habits of the people, their farming implements, and the climate are against it. The plow used in Colombia and most of the tropics is the primitive, single-handle, wood plow of Algeria and Moorish Spain, oftenest without an iron-shod point, drawn by oxen yoked across the forehead firmly with a piece of timber and a rope or piece of raw hide; and although this instrument may disturb the soil, it helps as little as its owner towards reliable, steady husbandry, such as is known alone to less enervating climes. Iron and steel plows have been introduced on some plantations, but have been invariably broken by the laborers at night, and abandoned. Just so was the first tramway torn up in Puerto Cabello.

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FOREIGN COMMERCE.

The facts that Colon and Panama are free ports, through which a large transit trade is carried on across the Isthmus of Panama, and connected by place with it is a considerable export trade of the country; that there is no record kept of the destination of exports from the ports of Cucuta and Ipeles, and that the Government publishes no statements of trade, international or transit, make it impossible that any but an appproximate statement should be made of the foreign commerce of Colombia. The principal part of such commerce appears to be with the United States, France, and Great Britain, with Germany as fourth, which latter gives the weight but not the value of articles in her commerce. The following table is arranged from values given in an article in "Commerce of the World," issued by the Department of State, for 1880, and from statistics of the Treasury Department for the year ending June 30, 1880, and is probably as accurate a statement as can be made of the foreign trade of Colombia with the countries named for that year. The direct imports are articles produced in the countries named; the indirect are products of other countries entered into their commerce; and the direct exports are of articles intended for consumption in the named countries. The classification, while showing the full value of the imports and exports respectively, exhibit also the true value of the productions of the several countries entering into those imports and the true extent of the demand of each upon the exports.

Imports into and exports from Colombia, 1880.

	Imports.			Exports.		
	Direct.	Indirect.	Total.	Direct.	Indirect.	Total.
United States	$5,228,836	$108,478	$5,337,314	$8,441,972	.....	$8,444,972
Great Britain	5,054,000	166,000	5,220,000	2,795,000	$2,837,000	5,632,000
France	4,103,000	1,679,000	5,782,000	4,073,000	.....	4,073,000
Total	14,385,836	1,953,478	16,339,314	15,309,972	2,837,000	18,149,972

The Department of State estimates that the value of the trade of Colombia with other countries than those mentioned would bring the imports for the year up to nineteen millions, and the exports to twenty. Unfortunately, neither this nor any other statement of the trade of Colombia nor of any other country of South America can be verified satisfactorily, especially in detail.

An attempt to show the foreign trade of Colombia for 1888 was made by United States Minister Abbott, derived from his inspection of the customs returns of the country; and his reports, corrected by the Department of State upon the authority of the customs returns of this country, Great Britain, and France, and from the Statesman's Year-Book as to the trade of Germany, are the basis of the following tables.

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The indirect trade through France was with Belgium and Switzerland; that through the United States and Great Britain was with unascertained countries.

Imports of Colombia, 1888.

From—	Direct.	Indirect.	Total.
France	$7,874,000	$2,026,000	$9,900,000
Great Britain	5,236,000	272,000	5,508,000
The United States	4,923,259	100,621	5,023,880
Germany	1,010,304	.....	1,010,304
The Antilles	225,701	.....	225,701
Ecuador	171,147	.....	171,147
Spain	122,156	.....	122,156
Peru	16,690	.....	16,690
Italy	9,824	.....	9,824
All other countries	97,088	.....	97,088
Total	19,686,169	2,398,621	22,084,790

Exports of Colombia, 1888.

Destination.	Value.	Destination.	Value.
United States	$4,393,258	Italy	$6,685
Great Britain	4,109,843	Spain	4,813
Germany	1,532,305	Ecuador	1,785
France ($9,036 Belgium)	1,159,894	Destination unknown:	
Antilles	181,220	Exports of Colon and Panama	1,682,293
Costa Rica	67,238	Exports of Ipeles and Cucuta	1,308,362
Venezuela	46,363		
Mexico	38,318	Total	14,551,076
Peru	18,699		

A detailed statement of the agricultural products of the United States imported into Colombia in 1889, published in the September report of this Department, showed the value to be $984,115. The average rate of duty of that country on imports seems to be about 63.1 per cent. ad valorem, although it is only determinable approximately, best by comparing the amount of revenue presumably raised from imports with the value of the imports, upon most of which duties are payable. Taking three-fourths of the revenue to have been raised from imports in 1888, at the apparent rate stated, the above amount of agricultural products purchased from us paid $620,000 in duties, or over 64 per cent., the whole of the productions imported from us paying $3,101,653. At the same time the export duties of Colombia are not less than those of Brazil or Venezuela upon coffee, the principal article of export of the three countries, or 16 per cent. ad valorem, which would make the duties collected on exports to us in 1888 $702,921, the whole duties collected on trade with us being $3,804,574 on a total trade of $9,447,138, or over 40 per cent. of the amount of that trade. As an offset in our favor we collected duties on $148,890 worth of imports from Colombia, amounting, at the average rate on dutiable articles of 45.13 per cent., to $67,233. We also admitted free of duty the balance of our imports from her, upon which she had already collected an export duty, such balance being $4,244,368, and such remitted duties, at an average rate of

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29.50 per cent on all articles free and dutiable, being $1,252,088. Such substantially are the trade conditions existing between two republics whose coasts are a little over 1,000 miles apart, lying on the natural trade line, producing little in common, and regularly requiring each the productions of the other, especially as to the productions of the soil.

SMALL HOLDINGS AND ALLOTMENTS IN GREAT BRITAIN.

A return showing the number of agricultural holdings in Great Britain not exceeding 50 acres in extent, and also the number of allotments comprising tracts of less than 1 acre not included under the head of agricultural holdings, has recently been made to Parliament by the board of agriculture, having been prepared under the care of Maj. P. G. Craigie, director of the statistical, intelligence, and educational department of the board. The number of agricultural holdings not exceeding 50 acres in extent is stated below by classes for 1889 and 1885, while the totals are also given for 1880 and 1875:

	1889.	1885.	1880.	1875.
Holdings of one-fourth of an acre and over, but under 1 acre.	28,652	23,512	.....	.....
Holdings of 1 acre and upwards, not exceeding 5 acres.....	144,185	135,736	.....	.....
Holdings of more than 5 and not more than 20 acres.....	151,372	148,806	.....	.....
Holdings of more than 20 and ot more than 50 acres	85,213	84,149	.....	.....
Total	409,422	392,203	391,429	388,941

Of the 409,422 holdings returned in 1889, 55,740 were owned by the occupiers, while 12,613 others consisted partly of land so owned and partly of land rented.

The holdings above enumerated do not include any areas of mountain or heath land or of "land attached to houses of any description simply as garden ground." Neither do they include plots of land which the collecting officers recognize as "allotments." The latter, like the smallest class of agricultural holdings, consist of plots under one acre in extent; but, unlike the holdings of that class, they comprise plots of less than one-fourth of an acre, which, in fact, constitute by far the greater part of their number, only about two-sevenths of them consisting of plots containing over that area.

Being thus distinct from the holdings reported on in the agricultural returns, the allotments have been made the subject of an independent inquiry, which was conducted in 13,500 parishes by the officers of inland revenue—an inquiry which "was solely directed to such points as would permit of comparison being made with the returns published in 1873 and 1886 as to the number of allotments detached from the cottages of occupiers."

The returns on allotments for 1886 embraced "certain areas running from one acre up to four acres" in extent, as well as allotments of less than one acre; but the present return confines the term allotments ex-

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clusively to areas of the class last mentioned, account having been taken of areas of one acre or more only in cases where they have been recorded by the collecting officers as ordinary agricultural holdings, and so have gone into the returns in that category. It is intimated that in 1886 some such areas must have been returned both as allotments and as ordinary agricultural holdings, thus exaggerating the total number of tracts occupied. It would seem that in the present returns some degree of error exists on the other side, arising from the failure to include some tracts of from one to four acres in extent in either category.

Excluding from the returns for 1886 all the areas of an acre or more originally included in them, the figures on allotments for all three periods refer only to areas of less than one acre, the numbers of which, with the increments in the same from 1873 to 1886 and from 1886 to 1890, respectively, were as stated below:

Years.	Allotments detached from the dwellings of occupiers.	Increase in the number of such allotments.
1890	455,005	97,210
1886	357,795	111,397
1873	246,398	.....

From these figures it appears that the average rate of increase in the number of allotments was nearly three times as great during the last four years as during the preceding thirteen, being 24,302.5 per annum as against 8,569 per annum during the earlier period.

An examination of the details indicates that many allotments are in urban parishes and presumably occupied by artisans. In the mining counties of Durham and Glamorgan the number of allotments was more than doubled between 1886 and 1890. The numbers in Staffordshire and Kent were also largely increased. In four counties only is there a diminution in the number returned, and this is accounted for in part by the omission from the category of allotments in 1890 of certain areas which were included in it in 1886. So far as the diminution was real, it is accounted for partly by the removal of country laborers to more profitable employment elsewhere, and partly by the use of some land heretofore occupied as allotments for building or other purposes.

If to the 455,005 allotments we add the 28,652 agricultural holdings of less than an acre in extent, we find that there were in all 483,657 holdings of less than that area, while the total number of holdings under 50 acres, taking the allotments and the agricultural holdings together, was 864,427.

We have already seen that this statement does not include mountain and heath land, or land attached to houses simply as gardens; and it appears that in some additional particulars the return of small holdings is incomplete. In the inquiry made in 1886 an attempt was made to

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include "so far as practicable any 'garden allotments' of an eighth of an acre and upwards which were attached to cottages occupied by laborers and workingmen. Information respecting the allotments supplied by railroad companies was added, as well as an estimate of the number of laborers who, in lieu of allotments, had plots of potato ground or cow runs granted them, according to the prevalent practice which has characterized certain districts where the number of allotments is small." It is added that "the endeavor thus to extend the class of allotments to be recorded was not very successful," and that with the inadequate machinery at command it was not thought best to repeat the effort in 1890.

The returns of 1886 are, however, quoted in regard to the number of "special allotments ascertained * * * to have been granted by railway companies, and in which no change is believed to have occurred," and also in regard to "the so-called garden allotments attached to cottages * * * and the quoted cases, admittedly incomplete, in which cow runs and potato grounds were stated to have been provided for laborers," all of these being "points in respect of which it is generally recognized no diminution, at all events, has occurred since 1886." In this way the following statement is made up as representing the minimum number of cases in which "one form or another of *petite culture* will be seen to be in existence in Great Britain:"

	Holdings.
According to returns of 1890:	
Agricultural holdings from one-fourth acre to 50 acres in area	449,422
Detached allotments under 1 acre in area	455,005
Additional details from the more extended returns made in 1886:	
Detached railway allotments under 1 acre	39,115
Garden allotments of one-eighth acre and upwards attached to cottages	262,614
Railway garden allotments of one-eighth acre and upwards attached to cottages	6,142
Potato grounds, cow runs	128,448
Total	1,300,746

The remark is added that—

Large as this figure is, it can hardly be doubted by any one familiar with the conditions of rural life that any new general investigation, rendering more complete the information imperfectly obtained in 1886, would add considerably to the total.

A statement on the distribution of land in France published in the Statistician's monthly report for October, 1888, showed the number of holdings in that country not exceeding 20 hectares (approximately 50 acres) in extent in 1882 (the date of the last return) to have been 5,234,050, or rather more than four times the number of holdings in Great Britain under 50 acres, as shown by the statement just given.

If a comparison could be made between the numbers of cases in which small holdings are owned by their occupiers in Great Britain and France, respectively, the preponderance in favor of the latter country would probably be far greater than it is in the comparison between their respective numbers of small holdings in existence.

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THE FRENCH AGRICULTURAL SYNDICATES.

A paper by M. Francois Bernard on the agricultural syndicates of France, read before the Statistical Society of Paris, and published in a recent number of its monthly journal, embraces considerable information concerning these organizations. The more salient points comprised in M. Bernard's paper are given below.

There exist at present three distinct types of syndicates, or unions. The first and oldest consist chiefly of the syndicates for the irrigation and reclamation* of land, while the second, as regards date of origin, owed their creation to the invasion of the phylloxera. The third are those whose fundamental charter is found in the law on industrial syndicates† enacted on the 21st of March, 1884, and to which the name "agricultural syndicates" is more especially applied. These last are by far the most important by reason of the extensive field within which they have power to act, and it is to them that M. Bernard devotes his paper.

He makes the broad statement that within a few years these societies have almost completely transformed the economic processes of French agriculture,‡ and in view of that fact points out the importance of following their evolution step by step.

The first trace of collective action in agriculture, according to M. Bernard, is found in France, and not further back than the year 1757, in which the States General of Brittany took the initiative for the establishment at Rennes of a society of agriculture, arts, and commerce, in order to promote the economic development of the province. M. Bernard says:

> Two years later that society appealed to the states-general for a subsidy to enable it to encourage agricultural improvements, which it recognized as possible. The grant of this request was the first of those administrative concessions to agriculture which are now customary with all governments; but the nature of the subsidy granted to the Agricultural Society of Rennes was such as to assimilate it to the true syndicate of the modern type. Three thousand livres were to be devoted to the purchase of clover-seed for gratuitous distribution in the province; 6,400 livres were to be distributed in premiums of 50 livres each for the creation of artificial meadows; and finally, a third credit of a considerable sum was to be used in the purchase of bulls and rams for the improvement of the local breeds of cattle and sheep.
>
> This idea of common action, of agricultural co-operation, was gradually taken up abroad, its principal applications being made in Switzerland and Germany. Some were, however, made in France, and others more recently in Italy, but as yet there was little more than communal credit, or the organization of fruit stores in mountainous districts.

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* "*Assainissement*"— literally, "making healthy."

† The phrase "*syndicats professionnels*" might be translated "trades unions," the word "trade" being broadly used for any occupation.

‡ This statement would seem to go somewhat beyond the truth in view of the figures given further on in relation to the number of members of the syndicates as compared with the whole number of agriculturists in France.

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Not that the advantages of association had escaped the attention of economists. Quite the contrary; but the true system for the combination of individual interests was as yet lacking. * * * Landed proprietors, small and great, enjoying a position of considerable independence, are not much inclined to give up their individual liberty for the benefit of an association in which they are only a unit liable to be neglected, or at most a simple element in a great total. To overcome this natural disposition is a difficult and delicate task, but it has been accomplished, and it is in France that the work had its beginning.

The organization in 1883 of the first of the agricultural syndicates now so numerous in France, through the initiative of M. Tanviray, then professor of agriculture in the department of Lair-et-Cher, and the subsequent rapid spread—especially after the passage of the act of March 21, 1884—of the system thus inaugurated, have heretofore been noticed in this report.

A new provision of law introduced in the Chamber of Deputies in May last by M. Meline and designed to promote the organization of agricultural credit by these syndicates, will be, when adopted, the second legislative action bearing upon these associations, but in reality the first in which they have been directly contemplated; for it was only by a single word, opportunely slipped into the law of 1884 by M. Oudet in the senate, by way of amendment, that agriculture was brought within the purview of that measure, which originally was designed to authorize the organization of trades unions among those engaged in the mechanical, manufacturing, and mining industries.

This circumstance has placed the agricultural syndicates at some disadvantage by leaving them subject to considerable uncertainty, which has occasionally given rise to litigation, besides occasioning the discussions with which the great annual meetings of the agricultural societies of France resounded in 1888.

M. Bernard points out that the agricultural syndicates have an element of power, not shared by the syndicates of workmen, in the fact that their members are possessors of capital. He then says:

Before studying the details and practical operations of the agricultural syndicates we ought to say a few words in regard to their possible inconveniences, not to speak of their power over public opinion, in case they should be tempted to depart from their purely economic rôle.

(1) The agricultural syndicates, like all industrial syndicates authorized by the law of 1884, have, without resuscitating, as has been erroneously charged, the old trade guilds, organized combinations of common interests, in which the members lose something, however little, of their individual freedom of action. This vice is inherent in their very constitution. With the lapse of time and the growth of their power will they not be able to confiscate individual initiative for the benefit of the collectivity? Will they not tend to form themselves in close corporations, into which access will be made more and more difficult, as certain co-operative societies which have accumulated profits have already done? This is a danger which is easily foreseen, and deserves the utmost attention and vigilance on the part of the legislator.

(2) It need not be imagined that the creation of the industrial syndicates contains within itself the solution of the grave question of cheap living. Co-operation is certainly the most important step which can now be taken in the simplification of the economic machine, but it is only a step and by no means the final one. Suppos-

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ing that co-operation may become general and the number of middlemen be reduced to a minimum, the new problems which will arise in the new economic organization will be no less numerous than those which now exist; for new necessities will make themselves felt, and the resources left available for direct consumption by the disappearance of the middlemen will have been absorbed as fast as they appeared.*

In referring to the wide diversity in the objects and methods of the syndicates, M. Bernard points out that this is a necessary result of the difference in the conditions to which they have to be adapted in different districts, wherein predominate such different forms of husbandry as vine-dressing, stock-raising, dairying, and the cultivation of the cereals, respectively, and of the still broader difference between the conditions that prevail in districts of large farming and those attending the prosecution of husbandry on a minute scale. There is also a wide diversity in the breadth of the territory over which a syndicate extends. Some of them, like that of Ardennes, that of Herault, etc., extend over a whole department, while others restrict themselves within a small territorial division, such as a canton or a little agricultural district whose inhabitants have special interests in common.

M. Bernard makes the following classification of the different objects proposed by the syndicates whose constitutions he has examined:

1. Study and defense of common interests.
2. Suppression of middle-men in making purchases.
3. Suppression of middle-men in making sales.
4. Agricultural credit and mutual credit.
5. Arbitration in lieu of litigation.
6. Mutual insurance against hail or against mortality among farm animals.
7. Mutual aid and superannuation allowances.
8. Promotion of agricultural progress by propagandism and by practical measures.

It appears from a table given below that but few of the syndicates include the fourth, sixth, and seventh of the objects above enumerated among those announced in their constitutions, and that the number which include the fifth (arbitration on questions of law) is also comparatively small. Two of the objects mentioned, namely, the study and defense of common interests and the promotion of agricultural progress, are not specified in the table, but these are of a general character, and are or may easily become common to all the agricultural syndicates; indeed the first is the main object specified in the law of March 21, 1884, as that for which the formation of industrial syndicates in general was authorized. Of the more specific objects pursued by the agricultural syndicates, the purchase in common, through the agency of the syndicate, of commodities needed by its members, such as seeds, fertilizers, agricultural implements, etc., is the one which appears to be common to the

* Even if this be true, it will be an end well worth achieving, if co-operation shall increase the amount available for consumption, for this implies a higher standard of living; but it is by no means certain, or even probable, that a considerable part of any savings effected through co-operation would not be added to the capital of the co-operators, rather than consumed in a higher scale of living.

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largest number, and next to that is the sale of the products of the members through the same agency.

The table referred to includes Algeria as well as France, and is as follows:

	France.	Algeria.
Number of syndicates	910	14
Number of members	298,086	315
Number of syndicates which include in their constitutions—		
1. Purchases in common	431	.....
2. Sales in common	153	1
3. Credit	12	.....
4. Hail insurance	1	.....
5. Live-stock insurance	10	.....
6. Mutual aid	12	.....
7. Arbitration	56	1
8. Corporate responsibility *	12	1
Number of dissolutions	35	1

* In a large majority of the syndicates the vender of goods to their members through the syndical agency looks to the members individually for his pay; but in these twelve the syndicate as a body assumes the responsibility for goods purchased through its agency.

The statement in the above table as to the number of syndicates whose constitutions provide for the points numbered from 1 up to 8 is far from being exhaustive, since M. Bernard states that he found it impossible to obtain returns from all of the syndicates, and that many of the returns received were incompletely filled out. In other particulars, too, the table fails to give the precise state of facts. M. Bernard points out that the "Annuaire des Syndicats Agricoles" gives the names of 918 syndicates, of which 30 have been dissolved, leaving 888 as the number in actual operation. The number of members given in the table represents little more than three-fourths of the syndicates, and M. Bernard thinks that an estimate of 400,000 would be below the mark for the total membership.

According to the Agricultural Census of 1882, there were at that time in France 5,672,000 agricultural holdings. Deducting 2,500,000 for those of very minute size, there remain, including tenants as well as proprietors, more than 3,000,000 of agriculturists. It thus appears that the syndicates do not embrace a very large proportion of the agriculturists of the country.

In exceptional cases the very large proprietors hold themselves aloof from the syndicates, but generally it is the small cultivators who least appreciate the advantages of association, and, with certain happy exceptions in some districts, a large majority of this class have remained outside of the agricultural syndicates.

Almost everywhere the members of these associations consist principally of the occupiers of the large and medium sized holdings, especially the latter. It is only natural that the small peasant should be more opposed to any innovation than an educated man, fearing to find himself neglected and to lose his independence in a powerful syndicate, while in some cases even the simple obligation to pay the annual assessment of 2 or 3 francs is sufficient to deter him from joining. And yet,

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says M. Bernard, the small peasant cultivators are the very class who have most need of the benefits of association and who would obtain from it the greatest advantages.

Up to the present time a large majority of the syndicates have confined themselves to an endeavor to dispense with middlemen in making their purchases, operating simply as small co-operative societies for consumption. The constitutions of these bodies are generally broadly drawn and contemplate a complex organization capable of rendering to the members a variety of useful services, but many of their clauses remain a dead letter for want of means of action, of zeal, activity, or boldness, and occasionally for want of the small capital necessary for the organization of their offices.

What has been done in securing supplies of fertilizers and seeds of improved quality and free from adulteration, in obtaining better terms as regards prices, credit, and rates of transportation, in opening wider and more lucrative markets for the products of their members, in dispensing with the services of middlemen and combating the exactions of monopolists, in promoting agricultural experiment and improved modes of cultivation, in informing their members as to the merits of particular fertilizers and their adaptability to the soils and crops to be cultivated, in holding meetings for the discussion of agricultural questions, theoretical or practical, in providing courses of lectures, publishing tracts, pamphlets, or periodicals, and otherwise disseminating agricultural knowledge, and in securing favorable governmental action by appeals to the authorities or to public opinion—what has been in these and other directions by the syndicates in general, or by particular local or departmental syndicates, has been spoken of with considerable fullness in a former number of this report, but a few additional examples taken from M. Bernard's paper may be mentioned. It may be observed, however, that in respect to the diffusion of agricultural knowledge, the promotion of improved methods, and the advancement of the interests of agriculture through appeals to the Government and to public opinion, M. Bernard looks chiefly to the syndicates, having many local branches united in one general organization, such as the syndicate of French vine dressers, that of the silk producers, the syndicate of agricultural economy, and the union of the agricultural syndicates of France.

The syndicate of Silans (Drôme) has undertaken the sale of cattle and secures to those who purchase from it an economy of 30 per cent. M. Bernard considers the matter of meat supply one of those in which syndicates may find a specially good field of operations. Between the price of meat upon the hoof and of that upon the butcher's stall there is a difference of from 50 per cent. to 100 per cent.; the latter figure being exceeded in Paris. The syndicate of Calvados has entered into a contest with the butcher's syndicate of Caen; the union of the Bourgogne syndicates has established a co-operative butchery business at Dijon,

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and there are still other movements in this line, notably at Lyons, where forty-four syndicates belonging to the Union of the Southeast set up in 1889 two co-operative establishments which they supply directly and which appear to be yielding excellent results.

In connection with the dairy industry, one of the most remarkable examples is furnished by the *Société anonyme civile* of Rouquefort cheese producers. Although not exactly belonging to the class of syndicates created by the law of 1884, it affords an excellent proof of what co-operation can accomplish when well conducted. Since 1881 the manufacture of Rouquefort cheese, which was formerly almost monopolized by one company, has in great part passed into the hands of an association formed among the proprietors and renting farmers producing ewe's milk for cheese-making. It was decided that the members should throw their products together, rent or construct cellars, prepare their cheese, sell it directly to the consumer, and having deducted the expenses, should divide pro rata the profits from the sale.

In 1882 this syndicate sold 510,000 kilograms (1,124,346 pounds) of cheese. In 1888 the amount had risen to 1,228,000 kilograms (2,707,249 pounds). Thanks to good management, the expense of maintaining cellars has been reduced to a very low figure. The old company which operated prior to 1882 incurred in cellar rent an expense of 19.50 francs per metric quintal, whereas the present cost is scarcely 5 francs. The establishing of this society has been of great advantage to the whole of Larzac and the neighboring region, its members obtaining on an average 110 to 145 francs per quintal of cheese.

M. Barnard estimated the total amount of the purchases made through the agency of the syndicates last year at 500,000,000 francs, or about $100,000,000.

TRANSPORTATION RATES.

FREIGHT RATES.—RAILROAD COMPANIES.

Very few changes are reported by the trunk lines east of Chicago in the rates of freight upon agricultural products November 1 as compared with those reported October 1. The Pennsylvania lines west of Pittsburgh report changes in the rates upon live hogs as follows:

[In cents per 100 pounds.]

From Cincinnati to—	Live hogs, C. L.	
	Oct. 1.	Nov. 1.
New York	21½	20
Philadelphia	19½	18
Baltimore	18½	17

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The returns from the New York, Lake Erie and Western Railroad Company show an increase in the rates upon live hogs from Chicago to New York and Boston from 23 cents per 100 pounds October 1 to 28 cents November 1.

The Grand Trunk Railway Company reports changes in their rates as follows:

[In cents per 100 pounds.]

Articles.	To Boston from—			
	Chicago.		Detroit.	
	Oct. 1.	Nov. 1.	Oct. 1.	Nov. 1.
Hides, green, in bundles, C. L.	28	35	23	28½
Live hogs, C. L.	25	23	.....	.....

The returns from the New York Central and Hudson River Railroad Company show a decrease in the rates upon green hides, in bundles, in car-load lots, of from 18 to 14 cents from Erie to New York, 21½ to 16½ from Cleveland, and 23½ to 18 cents from Detroit.

The Atchison, Topeka and Santa Fé Railroad Company furnishes a very complete and comprehensive statement of the rates of freight upon the principal agricultural products and farmers' supplies from Chicago to Missouri River points and points in Kansas and Colorado, which is presented in this report. It is expected that similar statements will be obtained from this company each month in the future, and published for the benefit of the farmer and buyer west of Chicago, who seek their supplies and necessaries in this great market center.

The transportation companies reporting no important changes in their rates since last published are as follows:

Pennsylvania Railroad Company, Lake Shore and Michigan Southern Railway, New York, Lake Erie and Western Railroad (west bound), Delaware, Lackawanna and Western Railroad (east and west bound), Michigan Central Railroad, Chicago and Alton Railroad, Northern Pacific Railroad, St. Paul and Duluth Railroad, Louisville and Nashville Railroad, Newport News and Mississippi Valley Company, Merchants' and Miners' Transportation Company, Norwich and New York Transportation Company, Old Dominion Steam-ship Company, Portland Steam Packet Company, Winsor Line, Yazoo and Tallahatchie Transportation Company.

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ATCHISON, TOPEKA AND SANTA FÉ RAILROAD.

[Rates in effect November 1, 1890, per 100 pounds.]

Articles.	From Chicago to—								
	Kansas City, Atchison, Leavenworth, or St. Joseph.	Denver, Colorado Springs, Pueblo, and Trinidad, Colo.	Wichita and Hutchinson, Kans.	Topeka, Kans.	Emporia, Kans.	Winfield, Kans.	Lawrence, Kans.	Osage City, Kans.	Coffeyville, Kans.
Agricultural implements, except hand, C. L	$0.28	$1.13	$0.58	$0.40	$0.50	$0.60	$0.37	$0.42	$0.49½
Apples:									
140 barrels, or more	.21	.88	.54½	.33	.45	.56½	.28	.38	44½
In barrels, L. C. L	.42	1.52	.88	.61	.76½	.91	.57	.67	.76½
Bacon, in barrels, boxes, or casks:									
C. L	.18	.93	.54½	.33	.45	.56½	.28	.38	.44½
L. C. L	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Beans:									
In sacks, C. L	.21	.96	.54½	.33	.45	.56½	.28	.38	.44½
Dried, in sacks, L. C. L	.42	1.52	.88	.61	.76½	.91	.57	.67	.76½
Dried, in barrels, L. C. L	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Beef, pickled:									
C. L	.18	.93	.54½	.33	.45	.56½	.28	.38	.44½
L. C. L	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Butter, in wood or tin, O. R.:									
C. L	.42	1.52	.88	.61	.76½	.91	.57	.67	.76½
L. C. L	.58	1.88	1.11	.82	.98	1.14	.78	.86	.97½
Cheese, in boxes, tubs, or casks:									
C. L	.42	1.52	.88	.61	.76½	.91	.57	.67	.76½
L. C. L	.58	1.88	1.11	.82	.98	1.14	.78	.86	.97½
Cotton, pressed in bales, L. C. L	.70	2.30	1.30	.99	1.15½	1.33	.95	1.00	1.12
Fertilizers, N. O. S., in packages:									
C. L	.15	.55	.26	.21	.22	.27	.19½	.21	.23
L. C. L	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Flour, N. O. S., in barrels:									
C. L	.22½	.55	.31	.29	.30	.32	.29	.29	.29
L. C. L	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Grain, other than wheat:									
C. L	.20	.50	.26	.24	.25	.27	.24	.24	.27
In bags only, L. C. L	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Hams:									
C. L	.18	.93	.54½	.33	.45	.56½	.28	.38	.44½
In boxes, barrels, or crates, L. C. L	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Hogs, dressed, O. R.:									
C. L	.25	.98½	.54½	.33	.45	.56½	.28	.38	.44½
L. C. L	.58	1.88	1.11	.82	.98	1.14	.78	.86	.97½
Lard, in barrels or tierces:									
C. L	.18	.39	.54½	.33	.45	.56½	.28	.38	.44½
L. C. L	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Lumber:									
Hard, C. L	.16	.39	.30	.20	.26½	.31	.20	.23	.24
Soft, C. L	.15	.39	.30	.20	.26½	.31	.20	.23	.24
Pork, packed:									
C. L	.18	.93	.54½	.33	.45	.56½	.28	.38	.44½
L. C. L	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Potatoes, N. O. S., in sacks or barrels, O. R:									
C. L	.18	.68	.36½	.26	.30	.37½	.24	.27½	.29½
L. C. L	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Salt:									
C. L	.15	.52	.26	.18	.19	.28	.18	.18	.22
In sacks, boxes, or barrels. L. C. L	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Tobacco, unmanufactured, in hogsheads, barrels, or boxes, C. L	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Wheat, C. L	.22½	.57½	.31	.29	.30	.27	.29	.29	.29
Wool:									
Compressed bales	.42	1.52	.88	.61	.76½	.91	.57	.67	.76½
In sacks	.58	1.88	1.11	.82	.98	1.14	.78	.86	.97½
Cattle, C. L	.22	*95.00	.27½	.19½	.23½	.27½	.17½	.21½	.24½
Hogs, C. L	.25	†95.00	.35	.24	.29	.36	.20	.27	.30
Sheep, C. L	.25	‡95.00	.34	.27½	.30	.35½	.27½	.28	.31
Horses, C. L	*60.00	*105.00	*56.95	*40.23	*48.60	*58.00	*36.05	*44.40	*48.60

* Per standard car. † Per single deck standard car. ‡ Per double-deck standard car. C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified.

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CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY.

[Rates in effect November 1, 1890, in cents per 100 pounds.]

Articles.	From Chicago, Milwaukee, or Racine to—									
	Dubuque.	McGregor and Prairie du Chien.	Winona.	St. Paul and Minneapolis.	Red Wing.	Chamberlain.	Mitchell.	Yankton.	Sioux City.	Omaha.
Agricultural implements, C. L.	15	18	18	20	20	50	40	32½	28	28
Apples:										
140 barrels or more	14	14	14	15	15	40	30	27	21	21
In barrels, L. C. L	27	27	27	30	30	70	56	47	42	42
Bacon, in barrels, boxes, or casks:										
C. L.	14	14	14	15	15	40	30	27	21	21
L. C. L.	18	18	18	20	20	50	40	35	28	28
Beans:										
In sacks, C. L.	14	14	14	15	15	40	30	27	21	21
Dried, in sacks, L. C. L	27	27	27	30	30	70	56	47	42	42
Dried, in barrels, L. C. L.	18	18	18	20	20	50	40	35	28	28
Beef, pickled:										
C. L.	14	14	14	15	15	40	30	27	21	21
L. C. L	18	18	18	20	20	50	40	35	28	28
Bulk meats, C. L	14	14	14	15	15	40	30	27	21	21
Butter, in wood or tin, O. R.:										
C. L	27	27	27	30	30	70	56	47	42	42
L. C. L	35	35	35	40	40	90	73	65	58	58
Cheese, in boxes, tubs, or casks:										
C. L.	27	27	27	30	30	70	56	47	42	42
L. C. L	35	35	35	40	40	90	73	65	58	58
Cotton, pressed, in bales, any quantity	45	45	45	50	50	120	92	80	70	70
Fertilizers, N. O. S., in packages:										
C. L.	7½	9	9	10	10	22	19	17	15	15
L. C. L	18	18	18	20	20	50	40	35	28	28
Flour, N. O. S., in barrels:										
C. L.	10	12½	.....	12½	12½	32	28	28	25	25
L. C. L	18	18	18	20	20	50	40	35	28	28
Grain, other than wheat:										
C. L.	10	12½	12½	12½	12½	28	25	24	22	20
L. C. L	18	18	18	20	20	50	40	35	28	28
Hams:										
C. L.	14	14	14	15	15	40	30	27	21	21
In boxes, barrels, or crates, L. C. L.	18	18	18	20	20	50	40	35	28	28
Hogs, dressed, O. R:										
C. L.	18	18	18	20	20	50	40	35	28	28
L. C. L	35	35	35	40	40	90	73	65	58	58
Lard, in barrels or tierces:										
C. L.	14	14	14	15	15	40	30	27	21	21
L. C. L	18	18	18	20	20	50	40	35	28	28
Lumber:										
Hard, C. L	10	10	10	14	14	27½	23	22	20	16
Soft, C. L	10	10	10	14	14	27½	23	22	19	15
Pork, packed:										
C. L. / L. C. L	18	18	18	20	20	50	40	35	28	28
Potatoes, N. O. S., in sacks or barrels:										
O. R., C. L.	11	11	11	12½	11	34	27	21	18	18
O. R., L. C. L	18	18	18	20	20	50	40	35	28	28
Salt:										
C. L	10	13	12½	12½	12½	27	21	20	15	15
In sacks, boxes or barrels, L. C. L.	18	18	18	20	20	50	40	35	28	28
Tobacco, unmanufactured, in hogsheads, barrels, or boxes, C. L	18	18	18	20	20	50	40	35	28	28
Wheat, C. L	12½	12½	12½	12½	12½	32	28	28	25	25
Wool:										
Compressed in bales	27	27	27	30	30	70	56	47	42	42
In sacks	35	35	35	40	40	90	73	65	58	58
Cattle, C. L	16	16	20	25	25	37½	34	32	31	25
Hogs, C. L	20	22	25	27	27	45	40	37½	35	25
Sheep, C. L.	20	22	25	27	27	45	40	37½	35	25
Horses and mules, C. L.	17 6/10	17 6/10	22	27½	27½	41½	37 1/10	35 3/10	34 1/10	27½

C. L. – Car-load. L. C. L. – Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified.

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WABASH RAILROAD COMPANY.

[Rates in effect November 1, 1890.]

Articles.	To Kansas City, Atchison, Leavenworth, or St. Joseph from—				From Kansas City, Atchison, Leavenworth, or St. Joseph to—			
	St. Paul, Minneapolis.	Chicago, Milwaukee.	Peoria, Pekin.	East St. Louis, St. Louis.	St. Paul, Minneapolis.	Chicago, Milwaukee.	Peoria, Pekin.	East St. Louis, St. Louis.
Agricultural implements:								
Except hand, O. R., C. L. ..... per 100 lbs.	$0.30	$0.28	$0.24½	$0.20½	$0.32	$0.30	$0.26½	$0.22½
N. O. S., K. D., flat, in bundles, L. C. L., per 100 lbs	.75	.70	.60	.50	.80	.75	.65	.55
Apples, in boxes or barrels, O. R., prepaid or guaranteed:								
C. L ..... per 100 lbs.	.22	.21	.18½	.16	.26	.25	.22½	.20
L. C. L ..... do.	.45	.42	.37	.32	.45	.40	.35	.30
Bacon, hams, and shoulders, packed:								
C. L ..... do.	.22½	.18	.15½	.13	.22½	.18	.15½	.13
L. C. L ..... do.	.30	.28	.25½	.23	.32	.30	.27½	.25
Beef, pickled:								
C. L ..... do.	.22½	.18	.15½	.13	.22½	.18	.15½	.13
L. C. L ..... do.	.30	.28	.25½	.23	.32	.30	.27½	.25
Butter, in wood or tin O. R.:								
C. L ..... do.	.45	.42	.37	.32	.43	.40	.35	.30
L. C. L ..... do.	.62	.58	.48	.38	.64	.60	.50	.40
Cheese, in boxes, tubs, or casks:								
C. L ..... do.	.45	.42	.37	.32	.43	.40	.35	.30
L. C. L ..... do.	.62	.58	.48	.38	.64	.60	.50	.40
Cotton-seed meal, C. L ..... do.	.19	.18	.15½	.13	.21	.20	.17½	.15
Cotton-seed oil, O. R., C. L ..... do.	.22	.21	.18½	.16	.26	.25	.22½	.20
Fertilizers, except guano, C. L ..... do.	.22½	.18	.15½	.13	.22½	.18	.15½	.13
Flour in barrels, C. L ..... do.	.....	.....	.....	.....	.22½	.20	.17½	.15
Fresh meat, C. L ..... do.	.30	.23½	.21	.18½	.30	.23½	.21	.18½
Fruit:								
Dried in cans, boxes, barrels, or sacks, released, C. L. ..... per 100 lbs.	.30	.28	.25½	.23	.32	.30	.27½	.25
Green, N. O. S., O. R., P. P., or guaranteed, C. L. ..... per 100 lbs.	.45	.42	.37	.32	.43	.40	.35	.30
Hides and sheep pelts, dry, C. L. (minimum weight 10,000 pounds) ..... per 100 lbs.	.62	.58	.48	.38	.64	.60	.50	.40
Hides: Dry, in bundles, L. C. L ..... do.	.75	.70	.60	.50	.80	.75	.65	.55
Hides and sheep pelts, green, C. L ..... do.	.22½	.18	.15½	.13	.22½	.18	.15½	.13
Hops, L. C. L ..... do.	.62	.58	.48	.38	.64	.60	.50	.40
Lard:								
In crocks, buckets, boxes, barrels, or casks, C. L ..... per 100 lbs.	.22½	.18	.15½	.13	.22½	.18	.15½	.13
In barrels or tierces, L. C. L ..... do.	.30	.28	.25½	.23	.32	.30	.27½	.25
Lumber:								
Soft, C. L ..... do.	.17	.15	.15	.08½	.17	.15	.15	.08½
Hard, C. L ..... do.	.18	.16	.16	.11	.18	.16	.16	.11
Pork, packed:								
C. L ..... do.	.22½	.18	.15½	.13	.22½	.18	.15½	.13
L. C. L ..... do.	.30	.28	.25½	.23	.32	.30	.27½	.25
Potatoes, N. O. S., in sacks or barrels, O. R.:								
C. L ..... do.	.19	.18	.15½	.13	.21	.20	.17½	.15
L. C. L ..... do.	.30	.28	.25½	.23	.32	.30	.27½	.25
Salt:								
C. L ..... do.	.....	.15	.13½	.11½	.....	.15	.13½	.11½
In sacks, boxes, or barrels, L. C. L ..... do.	.30	.28	.25½	.23	.32	.30	.27½	.25
Tobacco, unmanufactured:								
In hogsheads, barrels, or boxes, L. C. L. .do.	.30	.28	.25½	.23	.32	.30	.27½	.25
In bales, L. C. L ..... do.	.62	.58	.48	.38	.64	.60	.50	.40
Wool:								
In sacks, L. C. L ..... do.	.62	.58	.48	.38	.64	.60	.50	.40
Compressed, in bales, L. C. L ..... do.	.45	.42	.37	.32	.43	.40	.35	.30
Grain:								
Wheat ..... do.	.25	.22½	.20	.17½	.22½	.20	.17½	.15
Rye and barley, C. L ..... do.	.22½	.20	.17½	.15	.22½	.20	.17½	.15
Corn and oats, C. L ..... do.	.22½	.20	.17½	.15	.19½	.17	.14½	.12
Poultry, alive, in coops, O. R., released, P. P. or guaranteed, C. L ..... per 100 lbs.	.30	.28	.24½	.20½	.32	.30	.26½	.22½
Cattle and calves, C. L ..... do.	.27	.22	.18½	.18½	.27	.22	.18½	.18½
Hogs, C. L ..... do.	.25	.25	.21½	.21½	.25	.25	.21½	.21½
Sheep, C. L ..... do.	.....	.25	.21½	.21½	.....	.25	.21½	.21½
Horses and mules, in standard cars, C. L., per car ..	70.00	60.00	50.00	40.00	70.00	60.00	50.00	40.00

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified. K. D.—Knocked down. P. P.—Prepaid.

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THE TRANS-MISSOURI FREIGHT ASSOCIATION.

[Rates in effect November 1, 1890.]

Articles.	From Denver, Colorado Springs, Pueblo, Trinidad, Colo., and points taking Denver rates to—				
	Chicago, Ill.; Milwaukee, Wis.; Memphis, Tenn.	Peoria, Ill.	St. Louis, Mo.; East St. Louis, and Cairo, Ill.; Columbus, Ky.	St. Paul and Minneapolis, Minn.	Council Bluffs and Sioux City, Iowa; Omaha, Nebr.; Atchison and Leavenworth, Kans.; Kansas City and St. Joseph, Mo.
Agricultural implements:					
Except hand, C. L ..... per 100 lbs..	$1.15	$1.11½	$1.07½	$1.07	$0.85
N. O. S., K. D. flat, in bundles, L. C. L ..... do....	2.30	2.20	2.10	2.15	1.60
Apples, in barrels, or boxes, O. R., P. P., or guaranteed:					
C. L ..... do....	1.00	.97½	.95	.93	.75
L. C. L ..... do....	1.50	1.45	1.40	1.42	1.10
Bacon, hams, and shoulders, packed, C. L ..... do....	.93	.90½	.88	.90	.75
Beans and peas, dried, in barrels or in bulk, C. L ..... do....	1.00	.97½	.95	.93	.75
Beef, pickled:					
C. L ..... do....	.93	.90½	.88	.90	.75
L. C. L ..... do....	1.20	1.17½	1.15	1.15	.90
Butter, in wood or tin, O. R.:					
C. L ..... do....	1.50	1.45	1.40	1.42	1.10
L. C. L ..... do....	1.90	1.80	1.70	1.75	1.30
Cheese, in boxes, tubs, or casks:					
C. L ..... do....	1.50	1.45	1.40	1.42	1.10
L. C. L ..... do....	1.90	1.80	1.70	1.75	1.30
Fertilizer, N. O. S., C. L ..... do....	.45	.42½	.40	.41	.29
Flour:					
C. L ..... do....	.55	.52½	.50	.52½	.32½
For export, forwarded on through bills of lading, C. L. per 100 lbs	.52½	.50	.47½	.52½	.....
Fruit:					
Dried, in cans, boxes, bbls., or sacks, released, C. L ..... per 100 lbs..	1.20	1.17½	1.15	1.15	.90
Green, n. o. s., O. R., P. P., or guaranteed., C. L ..... do....	1.50	1.45	1.40	1.42	1.10
Hemp, in bales, L. C. L ..... do....	1.70	1.70	.....	1.70	.....
Hides, and sheep pelts, green, C. L ..... do....	.93	.90½	.88	.90	.75
Hides, dry:					
Pressed, in bales, and sheep pelts, C. L. (minimum weight, 10,000 lbs.) ..... per 100 lbs..	1.47	1.42	1.37	1.47	.97
In bundles, L. C. L ..... do....	2.30	2.20	2.10	2.15	1.60
Lard:					
C. L ..... do....	.93	.90½	.88	.90	.75
In barrels or tierces, L. C. L ..... do....	1.20	1.17½	1.15	1.15	.90
Meat, fresh, C. L ..... do....	1.33½	1.31	1.28½	.....	.....
Meats:					
Canned, C. L ..... do....	.93	.90½	.88	.90	.75
Dried or salted, packed or in bulk, C. L ..... do....	.93	.90½	.88	.90	.75
Oil-cake and oil-meal, C. L ..... do....	.85	.72½	.70	.70	.55
Oranges, lemons, and vegetables, mixed, C. L ..... do....	1.25	1.25	1.25	1.25	.....
Potatoes, n. o. s., C. L ..... do....	.55	.52½	.50	.50	.....
Pork, packed:					
C. L ..... do....	.93	.90½	.88	.90	.75
L. C. L ..... do....	1.20	1.71½	1.15	1.15	.90
Salt, in sacks, boxes, or barrels, L. C. L ..... do....	1.20	1.17½	1.15	1.15	.90
Tobacco, unmanufactured, in hogsheads, barrels, or boxes, L. C. L ..... 100 pounds..	1.20	1.17½	1.15	1.15	.90
Wool:					
In sacks, any quantity ..... do....	1.85	1.75	1.65	1.70	1.25
Compressed, in bales or sacks, any quantity ..... do....	1.50	1.45	1.40	1.42	1.10
Grain:					
Barley, C. L ..... do....	.60	.60	.58	.60	.35
Wheat, C. L ..... do....	.57½	.55	.52½	.55	.35
Horses and mules, released, C. L ..... per standard car..	105.00	105.00	87.50	105.00	75.00
Cattle, released, C. L ..... do....	95.00	95.00	77.50	95.00	65.00
Hogs:					
Single deck, released, C. L ..... do....	95.00	95.00	80.00	95.00	65.00
Double deck, released, C. L ..... do....	177.50	170.85	158.50	168.00	130.00
Sheep:					
Single deck, released, C. L ..... do....	57.00	57.00	46.50	57.00	39.00
Double deck or tiered cars, released, C. L ..... do....	95.00	95.00	77.50	95.00	65.00

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified. K. D.—Knocked down. O. R.—Owner's risk. P. P.—Prepaid.

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THE TRANS-MISSOURI FREIGHT ASSOCIATION.

[Rates in effect November 1, 1890.]

Articles.	To Denver, Colorado Springs, Pueblo, Trinidad, Colo., and points taking Denver rates, from—				
	Chicago, Ill.; Milwaukee, Wis.; Memphis, Tenn.	Peoria, Ill.	St. Louis, Mo.; East St. Louis and Cairo, Ill.; Columbus, Ky.	St. Paul and Minneapolis, Minn.	Council Bluffs and Sioux City, Iowa; Omaha, Nebr.; Atchison and Leavenworth, Kans.; Kansas City and St. Joseph, Mo.
Agricultural implements:					
Except hand, C. L. ..... per 100 lbs.	$1.13	$1.09½	$1.05½	$1.07	$0.85
N. O. S., K. D. flat, in bundles, L. C. L. ..... do	2.30	2.20	2.10	2.15	1.60
Apples in barrels or boxes, O. R., P. P. or guaranteed:					
C. L. ..... do	.96	.93½	.91	.93	.75
L. C. L. ..... do	1.52	1.47	1.42	1.42	1.10
Bacon, hams and shoulders, packed, C. L. ..... do	.93	.90½	.88	.93	.75
Beans and peas, dried in bbls. or in bulk, C. L. ..... do	.96	.93½	.91	.93	.75
Beef, pickled:					
C. L. ..... do	.93	.90½	88	.93	.75
L. C. L. ..... do	1.18	1.15½	1.13	1.15	.90
Butter, in wood or tin, O. R.:					
C. L. ..... do	1.52	1.47	1.42	1.42	1.10
L. C. L. ..... do	1.88	1.78	1.68	1.75	1.30
Cheese, in boxes, tubs, or casks:					
C. L. ..... do	1.52	1.47	1.42	1.42	1.10
L. C. L. ..... do	1.88	1.78	1.68	1.75	1.30
Corn, oats, rye, barley, or mill stuffs, C. L. ..... do	*.50	.47½	.45	.45	.30
Cotton-seed cake and meal, C. L. ..... do	.50	.47½	.45	.50	.35
Fertilizers, N. O. S., in packages, C. L. ..... do	.55	.52½	.50	.52	.40
Flour, C. L. ..... do	.55	.52½	.50	.55	.35
Fruit:					
Dried, in cans, boxes, bbls., or sacks, released, C. L. do	1.18	1.15½	1.13	1.15	.90
Tropical, O. R., straight or mixed, C. L. ..... do	.90	.85½	.81½	.90	.56½
Green, N. O. S., O. R., P. P. or guaranteed, C. L. ..... do	1.52	1.47	1.42	1.42	1.10
Hides and sheep pelts:					
Green, C. L. ..... do	.93	.90½	.88	.93	.75
Dry, C. L. (minimum weight 10,000 pounds) ..... do	1.88	1.78	1.68	1.75	1.30
Hides, dry in bundles, L. C. L. ..... do	2.30	2.20	2.10	2.15	1.60
Lard:					
C. L. ..... do	.93	.90½	.88	.93	.75
In barrels or tierces, L. C. L. ..... do	1.18	1.15½	1.13	1.15	.90
Meats:					
Fresh, O. R., P. P., or guaranteed, C. L. ..... do	.98½	.96	.93½	.98½	.75
Dried or salted, packed or in bulk, C. L. ..... do	.93	.90½	.88	.93	.75
Potatoes, C. L. ..... do	.68	.65½	.63	.65	.50
Pork, packed, C. L. ..... do	.93	.90½	.88	.93	.75
Salt:					
C. L. ..... do	.52	.50½	.48½	.49	.37
In sacks, boxes, or barrels, L. C. L. ..... do	1.18	1.15½	1.13	1.15	.90
Sorghum seed, C. L. ..... do	.52½	.50	.47½	.50	.30
Tobacco, unmanufactured, in hogsheads, barrels, or boxes, L. C. L. ..... per 100 pounds	1.18	1.15½	1.13	1.15	.90
Wheat and flaxseed, C. L. ..... do	.57½	.55	.52½	.55	.35
Wool:					
In sacks, L. C. L. ..... do	1.88	1.78	1.68	1.75	1.20
Compressed in bales, L. C. L. ..... do	1.52	1.47	1.42	1.42	1.10
Poultry, live, L. C. L. ..... do	3.90	3.80	3.70	3.90	.....
Horses and mules, released, C. L. ..... per standard car	105.00	105.00	87.50	105.00	75.00
Cattle, released, C. L. ..... do	95.00	95.00	77.50	95.00	65.00
Hogs:					
Single deck, released, C. L. ..... do	95.00	95.00	80.00	95.00	65.00
Double deck, released, C. L. ..... do	177.50	170.85	158.50	168.00	130.00
Sheep:					
Single deck, released, C. L. ..... do	57.00	57.00	46.50	57.00	39.00
In tiered or double-deck cars, released, C. L. ..... do	95.00	95.00	77.50	95.00	65.00

* From Memphis 48 cents.

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified. K. D.—Knocked down. O. R.—Owner's risk. P. P.—Prepaid.

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MONTHLY STATEMENT OF CANAL AND LAKE RATES.

[For October, 1890.]

Date.	Canal rates, Buffalo to New York.					Lake rates, Chicago to Buffalo.		
	Oats per bushel.	Corn and rye per bushel.	Wheat per bushel.	Lumber per 1,000 feet.		Oats per bushel.	Corn per bushel.	Wheat per bushel.
				To Albany.	To New York.			
	Cents.	*Cents.*	*Cents.*			*Cents.*	*Cents.*	*Cents.*
Oct. 1	2⅜	3¼	3¾	$1.60	$2.10	1¾	2	2¼
2	2⅜	3¼	3¾	1.60	2.10	1¾	2	2¼
3	2⅜	3¼	3¾	1.60	2.10	1¾	2	2¼
4	2⅜	3¼	3¾	1.60	2.10	1¾	2	2¼
5	2⅜	3¼	3¾	1.60	2.10	1¾	2	2¼
6	2⅜	3¼	3¾	1.60	2.10	1¾	2	2¼
7	2⅜	3¼	3¾	1.60	2.10	1¾	2	2¼
8	2⅜	3¼	3¾	1.60	2.10	1¾	2	2¼
9	2⅜	3¼	3¾	1.60	2.10	1¾	2	2¼
10	2⅜	3¼	3¾	1.60	2.10	1¾	2	2¼
11	2⅜	3¼	3¾	1.60	2.10	1¾	2	2¼
12	2⅜	3¼	3¾	1.60	2.10	1¾	1⅞	2⅛
13	2⅜	3¼	3¾	1.60	2.10	1¾	1⅞	2⅛
14	2⅜	3¼	3¾	1.60	2.10	1¾	1⅞	2⅛
15	2⅜	3¼	4¼	1.75	2.25	1¾	1⅞	1⅞
16	2⅜	3¼	4¼	1.75	2.25	1¾	1⅞	1⅞
17	2⅜	3¼	4¼	1.75	2.25	1¾	1⅞	1⅞
18	2⅜	3¼	4¼	1.75	2.25	1¾	1⅞	1⅞
19	2⅜	3¼	4¼	1.75	2.25	1¾	1⅞	1⅞
20	2⅜	3¼	4¼	1.75	2.25	1¾	1⅞	1⅞
21	2⅜	3¼	4¼	1.75	2.25	1¾	1⅞	1⅞
22	2⅜	3¼	4¼	1.75	2.25	1¾	1⅞	1⅞
23	2⅜	3¼	4¼	1.75	2.25	1	1⅞	1⅞
24	2⅜	3¼	4¼	1.75	2.25	1¾	1⅞	1⅞
25	2⅜	3¼	4¼	1.75	2.25	1¾	1⅞	1⅞
26	2⅜	3¼	4¼	1.75	2.25	1¾	1⅞	1⅞
27	2⅜	3¼	4¼	1.75	2.25	1¾	1⅞	1⅞
28	2⅜	3¼	4¼	1.75	2.25	1¾	1⅞	1⅞
29	2⅜	3¼	4¼	1.75	2.25	1¾	1⅞	1⅞
30	2⅜	3¼	4¼	1.75	2.25	1¾	1⅞	1⅞
31	2⅜	3¼	4¼	1.75	2.25	1¾	1⅞	1⅞

ST. LOUIS AND MISSISSIPPI VALLEY TRANSPORTATION COMPANY.

[Rates in effect November 1, 1890.]

Articles.	St. Louis to New Orleans.	Articles.	St. Louis to New Orleans.
Apples, green, in barrels.....per bbl..	$0.30	Grain.....per 100 lbs..	$0.15
Apples and peaches, dried, per 100 lbs..	.25	Hides:	
Bacon, packed.....do....	.15	Dry, loose, or in bundles...do....	.60
Beans:		Dry, in bales.....do....	.30
In boxes.....do....	.25	Green.....do....	.30
In barrels or sacks.....do....	.17½	Hops, baled.....do....	.40
Beef and pork.....per bbl..	.45	Lard, in tierces, kegs, and cases..do....	.15
Beef, smoked:		Oranges and lemons, released..do....	.60
In boxes or barrels..per 100 lbs..	.15	Potatoes, in barrels.....per bbl..	.30
In barrels.....per bbl..	.45	Salt.....per 100 lbs..	.15
Butter, in wood.....per 100 lbs..	.50	Salt, table.....do ...	.15
Cheese.....do....	.35	Tallow, N. O. S.....do....	.15
Corn-meal.....per bbl..	.30	Tobacco, unmanufactured:	
Cotton, in bales.....per bale..	1.25	In casks.....do....	.80
Cotton-seed oil, C. L.....per bbl..	.80	In hhds.....do....	.80
Flour, in barrels.....do....	.30	Wool:	
Fruit, dried:		In bags.....do....	.60
N. O. S., C. L.....per 100 lbs..	.30	N. O. S., pressed in bales, per 100 lbs.....	.80
N. O. S., L. C. L.....do....	.35		

C. L.—Car-load. L. C. L.—Less than car-load. N.O. S.—Not otherwise specified.

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OCEAN STEAM-SHIP COMPANIES.

[Rates in effect November 1, 1890.]

Articles.	White Star Line, New York to Liverpool.	Inman Line, New York to Liverpool.	Guion Line, New York to Liverpool.	Anchor Line, New York to Glasgow.
Wheat ..... per bushel..	$0.02	$0.04	$0.01¾	$0.02½
Corn ..... do....	.02	.04	.01¾	.02½
Flour ..... per barrel..	.24	.36	.48	.36
Flour (in sacks) ..... per 2,240 pounds..	1.80	2.40	.....	2.40
Bacon ..... do....	2.40	2.40	2.40	4.20
Lard ..... do....	2.40	2.40	2.40	4.20
Cheese ..... do....	4.80	4.80	4.80	7.20
Tallow ..... do....	2.40	2.40	2.40	4.20
Beef ..... per tierce..	.48	.48	.48	.84
Pork ..... per barrel..	.30	.36	.36	.60
Oil-cake ..... per 2,240 pounds..	2.40	1.80	.....	2.40
Cotton ..... per pound..	.00½	.00½	.00½	.00 3/4
Hops ..... do....	.00½	.00½	.00½	.00½
Tobacco ..... per hogshead..	4.80	4.80	.....	4.20 to 4.80
Rosin ..... per 280 pounds..	.....	.36	.....	.24
Lard (in small packages) ..... per 2,240 pounds..	3.60	4.80	4.80	5.40
Tobacco (in cases) ..... per 40 cubic feet..	4.20	3.60	4.80	4.80
Apples ..... per barrel..	.48	.60	.48	.72
Hams ..... per 2,240 pounds..	2.40	2.40	2.40	4.20
Butter ..... do....	6.00	6.00	6.00	7.20
Measurement per ton (40 cubic feet)	3.00 to 6.00	3.60	3.00	3.60 to 6.00
Primage ..... per cent..	5	5	5	5

Articles.	North German Lloyd Steam-ship Company, New York to Bremen.	General Transatlantic Company, New York to Havre.
Wheat ..... per 100 pounds..	$0.10	*$0.08
Corn ..... do....	.10	*.05
Flour ..... per barrel..	.70	.90
Flour (in sacks) ..... per 100 pounds..	.20	.25
Bacon ..... do....	.24	.....
Lard ..... do....	.24	.30
Cheese ..... do....	.36	.40
Tallow ..... do....	.24	.30
Beef ..... per tierce..	1.25	1.25
Pork ..... per barrel..	.96	1.00
Oil-cake ..... per 100 pounds..	.18	.25
Cotton ..... per pound..	†.00 7/8	.00¾ to .00½
Hops ..... do....	†.01	.....
Tobacco ..... per hogshead..	6.00	7.00
Rosin ..... per 280 pounds..	.70	.....
Lard (in small packages) ..... per 100 pounds..	.36	.30 to .50
Tobacco (in cases) ..... per case..	1.50	.....
Apples ..... per barrel..	1.00	.90 to 1.00
Hams ..... per 100 pounds..	.25	.....
Butter ..... do....	.60	.40
Measurement per ton (40 cubic feet)	4.80 to 10.00	10.00
Primage ..... per cent..	.....	5

*Per bushel. †And 5 per cent. primage.

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DEPARTMENT OF AGRICULTURE.

REPORT OF THE STATISTICIAN.

New Series. Report No. 80.

REPORT

ON THE

CROPS OF THE YEAR,

AND ON

FREIGHT RATES OF TRANSPORTATION COMPANIES.

DECEMBER, 1890.

PUBLISHED BY THE AUTHORITY OF THE SECRETARY OF AGRICULTURE.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
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DECEMBER REPORT.

DEPARTMENT OF AGRICULTURE,
December 31, 1890.

SIR: I herewith respectfully submit for publication a report of the results of the December returns, showing the prices of farm products and the area and condition of the fall sowing of wheat and rye. A summary of the history of certain crops of the year is given, with the area, product, and aggregate value of the crops of corn, wheat, and oats.

A brief mention is made of the proceedings of the annual meeting of the New York Dairymen's Association, at Walton, Delaware County, December 9–11, with the address of the Statistician, who represented the Department of Agriculture at the meeting.

The report of the London agent, Mr. Moffatt, is also presented. The current changes of the season in rates of transportation by land and water are given as usual.

Respectfully,

J. R. DODGE,
Statistician.

Hon. J. M. RUSK,
Secretary.

CROPS OF THE YEAR.

A careful study of the meteorological records of the growing season during 1890 shows that the year was an abnormal one both in distribution of temperature and rainfall over large sections of the most prominent agricultural States of the Union. With our wide expanse of territory there is almost every year in some portion an unfavorable season, resulting either from drought or an excess of moisture, or from both, at different periods during the season, but the present year is particularly remarkable for its abnormal distribution of moisture. In the Atlantic States and in portions of the cotton belt there was a large excess over the normal rainfall; so much that considerable damage to cotton, potatoes and some other crops resulted. This was more than balanced by the very heavy deficiency which prevailed in the upper Mississippi and Missouri Valleys and on the Pacific coast, where the rainfall was so

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scant that the results of the season over large areas were disheartening in the extreme. In the Missouri Valley, including a large portion of the fertile soils of Nebraska, Kansas, and northern Missouri, the deficiency in rainfall was accompanied during a portion of the year by exceedingly high temperature, making it a period of drought hardly equaled by any in the record of that agricultural region. During the growing season vast areas of yellow and shriveled corn and fields absolutely abandoned testified to the extremity of the disaster, and the final results of the harvest after husking was quite in keeping with the gloomy prospect.

A comparison of the Signal Service records shows that the effects of the drought of the present year were intensified by the fact that last season in the same districts there was a marked deficiency in the moisture supply, rendering the ground still more dry and less able to withstand the blazing sun and cloudless skies of the present year. In the following presentation from official records the aggregate rainfall during the growing season from April to September for 1889 and 1890, as compared with the normal as determined by the records of a series of years, is presented:

Districts.	Rain fall.			Departure of 1890 from the normal.	Departure of 1889 from the normal.
	For a series of years.	For 1890.	For 1889.		
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*
New England	21.49	22.44	26.47	+ 0.95	+ 3.23
Middle Atlantic	23.39	25.75	34.09	+ 2.36	+10.39
South Atlantic	31.53	32.22	31.68	+ 0.69	— 0.44
Eastern Gulf	30.37	29.21	28.63	— 1.16	— 1.74
Western Gulf	23.83	26.85	22.80	+ 3.02	— 0.20
Ohio Valley and Tennessee	23.22	25.37	22.59	+ 2.15	— 0.62
Lower Lake Region	19.82	22.55	16.48	+ 2.73	— 1.73
Upper Lake Region	20.24	17.37	18.60	— 2.87	— 1.51
Extreme Northwest	14.35	13.96	9.63	— 0.39	— 4.72
Upper Mississippi Valley	23.05	18.88	19.91	— 4.17	— 3.03
Missouri Valley	21.18	15.33	18.35	— 5.85	— 3.15
North Pacific coast	14.77	10.07	14.22	— 4.70	— 0.91

An analysis of this table shows that the season in New England was practically normal so far as water supply is concerned, though there was a considerable excess during September which seriously interfered with the harvest, especially of root crops, and extending to the Middle Atlantic States, where the remarkably wet year of 1889 was followed during 1890 by one in which there was a considerable excess of moisture, amounting to almost 2½ inches. During the six months under consideration in the South Atlantic and Eastern Gulf States the season varied slightly from the normal, and in the Western Gulf region there was an excess of precipitation over the normal of more than 12½ per cent. This excess was received mainly during May, June, and September, and the reports of our correspondents during the season indicated for these months some damage to cotton prospects.

The Ohio Valley received almost 10 per cent. more rainfall during the summer than its normal amount, and the fact that the excess came

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almost entirely during August and September increased the damage sustained. The Upper Mississippi Valley, including the Dakotas, Minnesota, and Iowa, suffered from a deficiency of precipitation amounting to more than 4 inches, or almost 20 per cent. of the normal rainfall of that period. During 1889 the supply in the same territory was deficient by more than 3 inches. The Missouri Valley, already referred to, failed by almost 6 inches to receive its normal supply, and the deficiency amounted to almost 30 per cent. On the Pacific coast the winter of 1889–'90 was remarkably severe, and the amount of moisture received in the form of rain and snow unusually large. This resulted in disastrous floods and overflows during the early spring, but was followed by a diminished water supply during the summer months, amounting in the more northern districts to nearly 5 inches, or one-third of the normal supply.

In order that a more extended comparison of the season may be made a table showing the rainfall by districts and by months during the growing season of 1890, as compared with the average for a number of years, is appended. During any season a comparison in this detail by months is necessary, as while the total amount of rain received during six months might vary but little from the normal, the variance by months might be great enough to materially injure the harvest of the year. Gentle rainfall, evenly distributed throughout the season, with the proper intervals of sunshine, will bless agriculture with bountiful harvests, while the same amount coming in the form of sudden storms and washing floods will destroy the results of a season's work.

Average rainfall by districts.

Districts.	April.		May.		June.		July.		August.		September.	
	For several years.	1890.	For several years.	1890.	For several years.	1890.	For several years.	1890.	For several years.	1890.	For several years.	1890.
	In.	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*	*In.*
New England	3.58	3.23	3.54	4.67	3.18	3.25	3.96	3.05	4.22	3.54	3.01	4.70
Middle Atlantic States	3.28	2.88	3.25	4.31	3.96	2.62	4.46	4.33	4.76	5.90	3.68	5.71
South Atlantic States	3.95	2.34	3.87	5.22	5.24	2.33	6.20	8.46	6.72	5.21	5.55	8.66
Eastern Gulf States	5.35	2.75	4.44	6.34	5.53	4.23	5.24	6.97	5.44	4.40	4.37	4.52
Western Gulf States	4.33	6.08	4.87	4.68	3.73	4.86	3.25	1.85	3.20	3.78	4.45	5.60
Rio Grande Valley	1.01	3.39	3.42	2.84	2.64	2.20	1.81	2.63	3.86	1.02	0.22	0.95
Ohio Valley and Tennessee	4.24	4.10	3.92	4.24	4.33	4.17	4.18	2.18	3.63	5.07	2.92	5.61
Lower Lake region	2.33	2.99	3.13	5.32	3.72	3.58	3.50	1.77	3.13	3.48	4.01	5.41
Upper Lake region	2.36	2.57	3.39	4.01	4.04	3.52	3.34	2.50	3.35	3.10	3.76	1.67
Extreme Northwest	1.71	0.82	2.18	1.07	3.43	6.15	3.18	2.13	2.46	1.74	1.39	2.05
Upper Mississippi Valley	3.05	2.30	4.15	4.25	4.98	5.08	3.77	1.46	3.28	3.01	3.82	2.78
Missouri Valley	2.69	1.68	4.72	2.98	4.39	4.32	3.88	2.61	3.07	2.07	2.43	1.67
Northern slope	1.35	1.73	2.81	1.27	3.06	2.34	1.86	1.05	1.61	1.48	1.18	0.85
Middle slope	2.86	3.01	4.01	1.81	2.69	1.61	2.90	0.75	2.71	3.31	2.00	0.61
Southern slope	2.12	0.38	2.61	2.38	3.21	0.64	2.67	2.01	3.09	2.52	3.34	3.36
Southern plateau	0.41	0.78	0.41	0.02	0.49	0.11	2.12	2.24	2.55	3.20	1.28	1.44
Middle plateau	1.74	0.99	1.05	0.54	0.64	0.14	0.56	0.25	0.94	0.80	0.76	0.38
Northern plateau	1.57	0.41	0.99	1.53	1.67	1.32	.....	.....	0.42	0.26	.....	.....
North Pacific coast region	3.72	2.94	2.92	1.34	2.21	2.99	1.30	1.47	0.60	0.94	4.02	0.39
Middle Pacific coast region	2.65	1.40	0.71	1.85	0.36	0.07	0.01	0.01	0.01	.....	0.33	0.89
South Pacific coast region	1.48	0.14	0.40	0.06	0.11	0.01	0.02	.....	0.10	0.02	0.04	0.36

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Almost as important in agricultural meteorology as proper rainfall well distributed is the range of temperature. The past season was almost as variable in heat distribution as in water supply. The season opened with April averaging from 1° to 4½° above the normal in the principal agricultural districts east of the Rocky Mountain region. West of that range the cold weather of the abnormal winter still continued. During May conditions were almost exactly reversed, and except east of the Alleghany chain and west of the Rocky range the month was from 1° to almost 5° below the average. This was accompanied in the main by an excess of rainfall, making it a cold wet month not favorable to the inception of farm work. In June, however, temperature ranged high, followed by a July which, as a rule, varied but little from the established records of a long series of years. During August and September the weather was generally cool in all districts, though the range from the normal was not as great as that noted earlier in the season. A record of the average temperature by districts is appended:

Average temperature by districts.

Districts.	April.		May.		June		July.		August.		September.	
	For several years.	1890.	For several years.	1890.	For several years.	1890.	For several years.	1890.	For several years.	1890.	For several years.	1890.
	°	°	°	°	°	°	°	°	°	°	°	°
New England	43.8	44.5	53.7	53.9	63.4	62.2	68.7	67.9	67.5	67.4	61.9	62.1
Middle Atlantic States	51.5	53.0	63.2	62.8	71.5	73.4	76.3	74.5	74.2	73.3	68.8	68.1
South Atlantic States	62.0	63.0	70.6	71.5	77.7	80.8	80.6	78.7	79.2	78.0	74.7	75.3
Eastern Gulf States	66.8	67.1	73.3	72.1	79.5	80.0	81.7	80.8	80.5	79.1	76.5	75.6
Western Gulf States	61.9	65.9	73.2	72.2	80.2	78.8	83.0	82.6	82.0	80.6	76.5	73.7
Rio Grande Valley	76.0	75.4	80.0	79.7	84.0	82.3	85.4	85.0	84.4	84.8	81.0	81.0
Ohio Valley and Tennessee	56.4	57.4	66.4	64.6	73.9	77.6	77.6	77.4	75.6	73.4	69.7	67.5
Lower Lake Region	44.2	45.8	57.5	54.1	66.2	69.4	71.1	71.1	69.1	67.1	63.8	60.8
Upper Lake Region	40.2	41.7	52.1	47.5	61.4	65.2	67.2	68.1	65.3	63.2	59.2	57.2
Extreme Northwest	41.0	45.3	54.8	50.0	65.4	67.6	69.2	70.9	66.6	65.0	56.6	55.3
Upper Mississippi Valley	51.8	53.3	62.8	58.7	71.1	74.8	76.7	76.3	73.2	70.2	65.6	61.8
Missouri Valley	50.3	53.2	61.0	58.3	70.8	72.9	75.3	77.3	72.7	70.7	64.2	62.3
Northern Slope	44.1	45.4	53.2	53.4	63.0	62.0	69.8	72.6	68.0	67.2	58.4	58.2
Middle Slope	54.2	54.2	62.8	63.4	73.0	73.5	76.3	79.2	74.0	73.9	66.7	64.7
Southern Slope	63.4	61.4	70.6	70.4	.....	.....	.....	.....	.....	.....	.....	.....
Southern Plateau	57.9	59.5	66.7	68.7	74.9	78.6	80.7	81.2	78.0	75.8	71.2	72.3
Middle Plateau	48.4	49.4	56.5	59.7	65.5	62.5	74.0	74.7	72.4	70.8	62.6	62.6
Northern Plateau	49.4	50.2	58.0	59.2	64.6	61.6	.....	.....	....	.....	.....	.....
North Pacific Coast Region	49.5	47.5	57.0	58.9	58.0	56.4	63.8	62.6	63.2	63.4	58.8	57.1
Middle Pacific Coast Region	58.3	58.0	63.0	64.3	67.3	66.5	71.6	71.3	71.0	71.3	68.7	68.4
South Pacific Coast Region	59.5	59.0	63.0	61.8	66.4	65.8	70.0	70.8	71.0	71.3	70.6	70.2

For convenience of examination, the departures from the normal, both in temperature and rainfall, for the districts comprising the principal

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agricultural districts of the country for each month during the growing season is appended:

Districts.	April.		May.		June.		July.		August.		September.	
	Temperature.	Rainfall.	Temperature.	Rainfall.	Temperature.	Rainfall.	Temperature.	Rainfall.	Temperature.	Rainfall.	Temperature.	Rainfall.
	°	*In.*	°	*In.*	°	*In.*	°	*In.*	°	*In.*	°	*In.*
New England	+0.7	—0.35	+0.2	+1.13	—1.2	+0.07	—0.8	—0.91	—0.1	—0.68	+0.2	+1.69
Middle Atlantic	+1.5	—0.40	—0.4	+1.06	+1.9	—1.34	—1.8	—0.13	—0.9	+1.14	—0.7	+2.03
South Atlantic	+1.0	—1.61	+0.9	+1.35	+3.1	—2.91	—1.9	+2.26	—1.3	—1.51	+0.6	+3.11
Eastern Gulf	+0.3	—2.60	—1.2	+1.90	+0.5	—1.30	—0.9	+1.73	—1.4	—1.04	—0.9	+0.15
Western Gulf	+1.0	+1.75	—1.0	—0.19	—1.4	+1.13	—0.4	—1.40	—1.4	+0.58	—2.8	+1.15
Ohio Valley and Tennessee	+1.0	—0.14	—1.8	+0.32	+3.7	—0.16	—0.2	—2.00	—2.2	+1.44	—2.2	+2.69
Lower Lake Region	+1.6	+0.66	—3.4	+2.19	+3.2	—0.14	0.0	—1.73	—2.0	+0.35	—3.0	+1.40
Upper Lake Region	+1.5	+0.21	—4.6	+0.62	+3.8	—0.52	+0.9	—0.84	—2.1	—0.25	—2.0	—2.09
Extreme Northwest	+4.3	—0.89	—4.8	—1.11	+2.2	+2.72	+1.7	—1.05	—1.6	—0.72	—1.3	+0.66
Upper Mississippi Valley	+1.5	—0.75	—4.1	+0.10	+3.7	+0.10	—0.4	—2.31	—3.0	—0.27	—3.8	—1.04
Missouri Valley	+2.9	—1.01	—2.7	—1.74	+2.1	—0.07	+2.0	—1.27	—2.0	—1.00	—1.9	—0.76
North Pacific coast	—2.0	—0.78	+1.9	—1.58	—1.6	+0.78	—1.2	+0.17	+0.2	+0.34	—1.7	—3.63
Middle Pacific coast	—0.3	—1.25	+1.3	+1.14	—0.8	—0.29	—0.3	.....	+0.3	—0.01	—0.3	+0.56

These records indicate an abnormal season and point to depreciated yields of crops most affected by such meteorological influences. A winter so mild that cotton in some situations was growing and flowering in midwinter, and seeds and grains sprouted and grew as volunteer crops, was not calculated to produce hardy growths that could withstand the inevitable fluctuations of March weather. In the central and most of the northern States the winter was unusually mild, grain was unprotected by snows and too succulent to endure the winds and frosts, which are sure to come before spring. The result was a worse injury of winter grain over a wider area than occurs in the average of bad seasons, and a frosting of citrus fruits on the Gulf coast and peninsula of Florida, which cut off a part of the season's crops and delayed the development of orange groves.

Winter wheat was injured seriously, and large areas in certain States were planted in other crops. Well rooted plants, that in good soils or in tile-drained and drilled fields escaped the disruption so disastrous in "sprouting" soils, made good yields. A greater disparity in rate of yield has rarely been seen. From a heavy crop to a nearly absolute failure the range has been extreme.

Spring wheat started fairly well and improved slightly during June. In Minnesota a rank growth was reported and fears of blight from high temperature were entertained; chinch bugs began to threaten certain districts, and indications of rust appeared. In Dakota a deficiency of moisture was already apparent. During July a reduction in condition of eleven points. High temperature and hot winds wrought some damage to the ripening grain.

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The changes in condition of winter and spring wheat from month to month as compared with those of 1889 are those presented:

Year.	April.	May.	June.		July.		August.	When harvested.	
	W.	W.	W.	S.	W.	S.	S.	W.	S.
1889	94	96	93.1	94.4	92.	83.3	81.2	89.4	83.8
1890	81	80	78.1	91.3	76.2	94.4	83.2	73.5	79.8

The corn crop started well with an average in July, the date of first report of condition, of 93.1, a figure higher than any in 1888 and 1889, and but little, if any, below an average July condition during the past decade. During July and August the drought, which was especially severe in the section growing the great bulk of commercial corn, set in, and in sixty days condition was reduced to 70.1 per cent. This rapid falling off in condition is only equalled by the decline which took place during the same period in 1887 from similar causes.

The weather during October was favorable for ripening and harvesting, frost holding off until the great bulk of the crop was hard and of merchantable quality, except as injured by the drought. It ripened well in northern New England, though in New York and Pennsylvania late maturation caused a considerable amount of soft corn. The excess of moisture during the latter part of the season along the Atlantic coast was rather unfavorable to ripening and delayed gathering and husking. The aggregate product is very much reduced, making only about 70 per cent. of the great crop of 1889; the loss resulting from the smaller area harvested and the very heavy reduction in the rate of yield.

The returns of the oats crop were unfavorable from the beginning, condition at the June report, the first of the season, standing at only 89.8, or the lowest figure, with one exception, ever recorded in the crop-reporting history of the Department. This poor condition was the result of unfavorable meteorological influences prevailing at time of sowing in many districts, and to drowning out of the crop in low and bottomlands by spring floods. During the month of June there was a decline in condition of 8 points, most severe along the Atlantic coast and in the Ohio Valley, and condition on the first of July was only 81.6. Over a large portion of the district of heavy production the plant was weak, enfeebled by alternations of temperature, and readily susceptible to damage from attacks of insects or blight. During July attacks of blight were reported in almost every section of the country except the Northwest, and condition fell away rapidly to 70.1 at the August report; the lowest figure ever reported for this crop in any month up to that date. At time of harvest, however, the injury sustained was still more apparent, and the result is a yield of only 19.8 bushels per acre; the lowest rate ever reported for this crop.

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Of the minor cereals, rye and barley make yields considerably smaller than the average for a series of years, resulting from the same unfavorable conditions which shortened the product of the principal cereals. Buckwheat, however, coming later in the growing season, made a crop larger than usual, the yield being estimated at 14½ bushels upon an area somewhat in excess of that of 1889. With the exception of last year, this is the largest yield per acre reported during the past decade.

The potato crop suffered from unfavorable weather at time of planting and at time of harvest. This was especially true in New England and the Ohio Valley; condition throughout the season was low, and the returns of yield per acre were in close harmony with the season's record. The estimated yield per acre is only 57½ bushels, which, with two exceptions, is the lowest yield ever reported. The same conditions which injured the crop during the early growing season resulted in making the area smaller than was originally intended. The actual supply for consumption per head of population of this important food crop is smaller than in any recent year. It should not be hastily assumed, however, that the apparent decline in the yield per acre of this crop during the past ten years is permanent, or that it results from any deterioration in fertility of soil or quality of seed. The last ten years have contained an unusually large number of seasons of unfavorable meterological conditions—seasons of drought or of rainfall, or an injurious combination of both—which are hardly likely to reappear again with such frequency. With favorable weather, careful attention to selection of seed, and scientific rotation in cropping, a yield as large as any made in previous years may be confidently expected; in fact, during the past decade there were two favorable seasons when the outturn exceeded 90 bushels per acre.

The sugar crop has been a large one; the outturn of cane sugar in Louisiana being evidently in excess of that of last year. The year marks an important forward step in our experiments with other sugar-producing plants—the making of sugar from beets having been a commercial success in Nebraska, Kansas, and California. The results of this campaign give promise that the time when this country shall be less dependent for this staple article upon the plantations of foreign countries is at hand, and it may be that within a few years the $90,000,000 annually sent abroad will go to the pockets of our own farmers.

The hay crop of 1890 is above the average, both in breadth and in yield per acre. The extension of cultivated grasses in the South, and on the Great Western Plains where formerly stock raising was carried on with no provision for winter feeding beyond that provided by nature in the dried buffalo and other wild grasses, which has been a marked feature of American agriculture during recent years, has continued. The search for grasses and forage plants which can withstand the high temperature and scanty moisture of the semi-arid districts of the Rocky Mountain regions continues. Alfalfa in many locations, especially

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where the scanty precipitation can be eked out with even a minimum distribution of water by irrigation, is regarded by many as a solution of the problem, and the increase in the product of this nutritious hay has been very rapid during recent years in Colorado, Wyoming, Utah, and other sections of the mountain region.

The estimated average yield per acre for the total area of all grasses cut for hay is 1.2 tons, a figure somewhat above the average for the past ten years. Except in the drought-stricken districts, the season was in the main favorable for maximum production, the excess of moisture characterizing the early spring months giving a strong, luxuriant growth, which carried the crop through the less favorable period of its later growth.

The apple, peach, and small fruit crops were very deficient in almost every section of the country, except the Pacific coast, where there was a medium supply. The failure was the result of the mild, open winter which prevailed throughout the country east of the Rocky Mountains, the growth of new wood and of fruit buds continuing during the usual period of rest, making the variable weather of March unusually trying. California fruits and grapes have occupied a commanding position in the markets of the great cities, and the season was one of great prosperity to the horticultural interests of that State. The supply of oranges and other tropical fruits and delicacies from the Pacific coast and from Florida has been fairly abundant, and each year demonstrates our ability to compete with foreign planters in new lines of production. Our possibilities for fruit production are becoming recognized, and the range is almost limitless.

The cotton crop of 1889 was the largest ever grown up to that date, but the indications of condition throughout the growing season of 1890, with the annual enlargement of area, point to a somewhat larger product for the past year. We grow now three-fourths of the cotton consumed in the manufactures of the civilized world, and as the demands for the fiber have quite kept pace with the increased product which our planters have marketed year after year, there has been no glut or overproduction, and prices have been maintained at a steady and remunerative level.

The increased interest in sheep and wool, noted a year ago, has been continued, and this has been probably the most profitable branch of our stock industry during the year. The decline in wool production which began with the slaughter of flocks in 1884–'85, has been checked, the aggregate clip for 1890 (fall of 1889 and spring of 1890) being estimated at 276,000,000 pounds; an increase of 11,000,000 pounds over the previous season.

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CEREAL CROPS OF THE YEAR IN DETAIL.

As noted in the general review, the season was distinctly unfavorable to full production in any of the staple cereals. Seeding and planting took place under discouraging circumstances; the period of early growth was attended by adverse meteorological conditions, the later season marked by alternations of flood and drought, and even the harvest interfered with by the lack of seasonable weather. All of these unfavorable conditions were, of course, not constantly present everywhere, but they were present throughout the whole crop year in one district or another of large production, and there is hardly a prominent grain State in which the yield per acre of corn, oats, or winter wheat is as large as the average of the past ten years.

It must not be presumed, however, that this partial crop failure will result in a stinted domestic food supply, or even prevent America from still being the granary from which the Old World may draw supplies with which to eke out her own deficiencies. With a crop of corn 30 per cent. smaller than that of the previous year, making the smallest yield per acre with two exceptions noted in twenty years, we have a production per head of our population of 23 bushels, or 50 per cent. more than the average production per capita of all cereals in Europe. Of wheat we have grown this year more than twice the average per head of Europe, and our prior reserves, though somewhat depleted, with the small surplus which will remain over home requirements from this crop, will enable us to meet all probable foreign demands should ruling prices warrant a close clearing up of both visible and invisible stocks.

CORN.

The area of corn, which was slightly increased in planting, was reduced by failure and utter abandonment by more than 6,000,000 acres, the breadth harvested being estimated at 71,970,763 acres. In this breadth there is properly included all areas not absolutely abandoned, all fields even though producing but a few bushels per acre; and this fact, as well as that the estimated production is not in merchantable corn, but all corn—good, bad, soft, or nubbins—should be borne in mind in all comparisons with previous years, and in calculations of commercial supplies. The question of proportion of the crop merchantable is always investigated later, after husking and partial feeding of the crop give ample opportunity for mature judgment. The greater portion of the 6,000,000 acres planted but abandoned was of course in Kansas and Nebraska, the result of the severe drought which afflicted large areas in each State, but there was an unusually large area so lost in many other districts.

The estimated product is 1,489,970,000 bushels, or a yield of 20.7 bushels per acre. With the single exception of 1887, another year of

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severe drought, this is the smallest aggregate grown in any year since 1881. It is only 70 per cent. of last year's great crop, but the disparity in commercial corn between the two seasons is even greater. The seven States of Ohio, Indiana, Illinois, Iowa, Missouri, Kansas, and Nebraska are the corn-surplus States, practically furnishing all that enters commercial channels. The crop in the other States is consumed where grown, and it exerts an influence on commercial corn only as it supplies home requirements or makes necessary a demand on the surplus States. Outside of these seven States the yield is practically only of local interest.

The diminution in rate of yield this year is largely in this important belt of States, they producing but 860,000,000 bushels against 1,413,000,000 bushels in 1889; a falling off of nearly 40 per cent. This analysis shows an even smaller supply of commercial corn than the estimates of aggregate production would indicate. There is another important point, which is generally overlooked in the hasty generalization of commercial writers, bearing most strongly upon the question of supply. Our annual records show that five-sixths of the crop is consumed in the county where grown, only about 20 per cent. being distributed beyond county lines. This consumption on the farm is in the nature of a fixed requirement for work animals, meat production, seed, etc., and is a demand not flexible in its character. The stimulus of high prices would of course shorten to some extent the rations of beasts, but very high prices indeed must rule before the commercial supply would be largely augmented at the expense of home consumption. Of course with cheap corn there is a larger and wasteful consumption on the farm, but the records upon which the estimate of 80 per cent. is based cover a series of both good and bad years, large and small crops. The demand for farm consumption being thus a comparatively fixed amount, it follows that the percentage of the crop available for distribution beyond county lines must be smaller in bad than in good years. Instead, therefore, of reckoning upon 20 per cent. of the present crop being thus available, a smaller percentage must be counted upon. The aggregate crop of 1887 was but little below that of 1890, and in the March following it appeared that but 11.7 per cent. was available for commercial wants. Instead of the usual one-fifth, less than one-eighth crossed county lines. Should the rates for the present crop run in about the same proportion, the commercial supply from this crop would be less than one-half as great as that from the crop of 1889. In other words, a reduction of 30 per cent. in the aggregate crop would involve a reduction of more than 50 per cent. in the commercial surplus.

This will account for the fact that elevators throughout the corn districts which were full last year of cheap corn are this year empty, and disposes of the argument that because the higher prices offered by dealers do not bring out the supplies there can be no corn in the country.

The rate of yield of the crop is the smallest with two exceptions during

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twenty years past. In 1887 and 1881, both years of very severe drought, it was lower. The records of condition throughout the growing season were so uniform that their interpretation was plain, and the November estimates of yield per acre made by our correspondents were very near the final record. The average then given was 19.9 and the final result, after other parallel lines of investigation, is less than one bushel higher. The duplicate investigations included returns of actual acreage and product from more than 90,000 individual farmers scattered through every producing county of the Union, as well as other tests, and the results are extremely gratifying, indicating the substantial accuracy of the returns of our regular correspondents.

The November return of yield for some States was criticised in a few quarters, generally by panic-stricken dealers, who insisted upon the necessity of counting out large areas as abandoned and further discounting the loss by mentally including the whole area in the calculation necessary to determine the average yield. This was especially true in the case of Nebraska, where the carefully made and considered estimates from correspondents which showed about 60 per cent. of the rate of yield of the previous year were discredited by these lightning calculators, who generally based their estimates upon a knowledge of the result in a few of the worst counties and hastily assumed that the whole State was as bad. For the satisfaction of the office an additional investigation for this State was made, after husking gave better opportunity for mature judgment. These later returns from our correspondents, every producing county in the State being covered, reduced the first estimate by about two bushels, making the rate 18 bushels instead of the 10 which critics insisted upon. A striking verification of this final estimate is the fact that our returns from nearly 6,000 Nebraska farmers make almost the same average for the State, and county by county show but little variance. It is a striking tribute to the care and accuracy of our Nebraska county correspondents. The error which those not accustomed to crop reporting fall into is hasty aggregation. One critic, who was especially emphatic in his assertion that the estimate was double what it should be, was asked to give his own estimate in detail for all counties with which he was personally familiar. He did so, and it was slightly higher than the returns from correspondents for the same counties.

The returns of farm value of the crop show in a striking way the influence of short crops upon prices. While the crop aggregates only 70 per cent. of that of last year, the aggregate money value of the crop to the producer is $156,000,000 greater.

The advance in value is in greater ratio than the decline in volume. It proves that the law of supply and demand still controls and that small crops are a sure cure for low prices, but unfortunately the absolute failure of the crop in large districts prevents all growers from sharing in the average enhancement of the remaining product.

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The estimated acreage, product, and value of the crop, by States, is thus presented:

States and Territories.	Acres.	Bushels.	Value.
Maine	27,855	1,008,000	$746,180
New Hampshire	34,487	1,259,000	906,319
Vermont	54,893	1,839,000	1,324,029
Massachusetts	54,134	1,868,000	1,307,336
Rhode Island	12,307	402,000	289,756
Connecticut	56,407	2,014,000	1,409,611
New York	642,896	17,101,000	11,115,672
New Jersey	357,342	11,185,000	6,934,579
Pennsylvania	1,383,377	38,043,000	22,825,721
Delaware	223,136	4,128,000	2,064,008
Maryland	725,907	16,333,000	8,166,454
Virginia	2,109,853	36,922,000	20,307,335
North Carolina	2,726,586	36,264,000	19,944,977
South Carolina	1,570,230	16,078,000	11,254,282
Georgia	2,981,486	31,306,000	21,600,906
Florida	491,428	4,570,000	3,427,710
Alabama	2,489,226	25,390,000	17,265,271
Mississippi	1,951,651	24,396,000	17,076,947
Louisiana	1,061,169	16,979,000	11,885,098
Texas	4,116,281	63,802,000	45,937,606
Arkansas	2,002,575	33,443,000	21,737,952
Tennessee	3,600,657	67,692,000	35,200,032
West Virginia	671,733	13,435,000	8,060,796
Kentucky	2,816,155	63,645,000	31,186,160
Ohio	2,827,277	65,876,000	33,596,533
Michigan	977,188	26,580,000	14,618,732
Indiana	3,604,252	89,025,000	41,841,761
Illinois	7,154,424	187,446,000	80,601,741
Wisconsin	1,102,022	33,061,000	14,877,297
Minnesota	768,449	21,286,000	8,940,126
Iowa	8,771,299	232,439,000	95,300,164
Missouri	6,796,318	175,345,000	77,151,802
Kansas	3,542,891	55,269,000	28,187,241
Nebraska	3,072,800	55,310,000	26,548,902
California	159,871	4,396,000	2,857,694
Oregon	8,011	173,000	114,286
Colorado	42,133	767,000	483,007
The Dakotas	884,593	12,030,000	6,015,233
New Mexico	56,289	1,126,000	821,819
Utah	35,175	739,000	502,280
Total	71,970,763	1,489,970,000	754,433,451

For purpose of comparison a presentation, in condensed form, of the results for a long series of years is given. An examination of the table shows that with one exception the crop of 1890 is the smallest of the decade and with the same exception the most valuable per unit of quantity. The course of price follows closely the course of product, the highest price going with the smallest crop, in 1881, and the lowest price with the largest crop, in 1889. The decline in average yield between the period 1870–'79 and 1880–'89 can not be attributed to any decline in fertility or be considered as permanent. The first period included an unusually large number of fat years, years of plenty, in which nature smiled upon the efforts of the husbandman, while the latter number many that were lean, when droughts and floods robbed the worker of the fruits of his labor.

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The statement is as follows:

Years.	Total production.	Total area of crop.	Total value of crop.	Average value per bushel.	Average yield per acre.	Average value per acre.
	Bushels.	*Acres.*		*Cents.*	*Bushels.*	
1880	1,717,434,543	62,317,842	$679,714,499	39.6	27.6	$10.91
1881	1,194,916,000	64,262,025	759,482,170	63.6	18.6	11.82
1882	1,617,025,100	65,659,545	783,867,175	48.5	24.6	11.94
1883	1,551,066,895	68,301,889	658,051,485	42.4	22.7	9.63
1884	1,795,528,000	69,683,780	640,735,560	35.7	25.8	9.19
1885	1,936,176,000	73,130,150	635,674,630	32.8	26.5	8.69
1886	1,665,441,000	75,694,208	610,311,000	36.6	22.0	8.06
1887	1,456,161,000	72,392,720	646,106,770	44.4	20.1	8.93
1888	1,987,790,000	75,672,763	677,561,580	34.1	26.3	8.95
1889	2,112,892,000	78,319,651	507,918,829	28.3	27.0	7.63
1890	1,489,970,000	71,970,763	754,433,451	50.6	20.7	10.48
Total	18,524,400,538	777,405,336	7,443,857,149			
Average, 11 years, 1880 to 1890	1,684,036,413	70,673,212	676,714,286	40.2	23.8	9.58
Average, 10 years, 1880 to 1889	1,703,443,054	70,543,457	668,942,370	39.3	24.1	9.48
Average, 10 years, 1870 1879	1,184,486,954	43,741,331	504,571,048	42.6	27.1	11.54

The great bulk of our corn crop is used at home, in fact is consumed upon the farms where grown, and but a very small proportion is ever shipped abroad. The shipments, however, small as they are, are extremely variable, depending entirely upon the domestic price. When the volume was greatest it amounted to but 6.5 per cent. of the crop, and from that it ranges down to 1 per cent. The production and exportation, with the annual average of each for twenty years, is presented in the following statement, showing that during that period the foreign demand has amounted to only 3.9 per cent. of our production.

Production and export of corn.

Years.	Production.	Exports.	Exportation.	Years.	Production.	Exports.	Exportation.
	Bushels.	*Bushels.*	*Per cent.*		*Bushels.*	*Bushels.*	*Per cent.*
1870	1,094,255,000	10,673,553	1.0	1881	1,194,916,000	44,340,683	3.7
1871	991,898,000	35,727,010	3.6	1882	1,617,025,100	41,655,658	2.6
1872	1,092,719,000	40,154,374	3.7	1883	1,551,066,895	46,258,606	3.0
1873	932,274,000	35,985,834	3.9	1884	1,795,528,000	52,876,456	2.9
1874	850,148,500	30,025,036	3.5	1885	1,936,176,000	64,829,617	3.3
1875	1,321,069,000	50,910,532	3.9	1886	1,665,441,000	41,868,584	2.5
1876	1,283,827,500	72,652,611	5.7	1887	1,456,161,000	25,360,869	1.7
1877	1,342,558,000	87,192,110	6.5	1888	1,987,790,000	70,841,673	3.6
1878	1,388,218,750	87,884,892	6.3	1889	2,112,892,000	103,418,709	4.9
1879	1,754,591,676	99,572,329	5.7				
1880	1,717,434,543	93,648,147	5.5	Annual average	1,454,299,498	56,768,864	3.9

WHEAT.

The estimate of the wheat crop of 1890 was closely foreshadowed by the various returns of condition throughout the season. The October estimate of yield per acre is confirmed by later investigations, by re-

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turns of thrashing, and by the record of individual cultivators received and tabulated during December. The aggregate area harvested is estimated at 36,087,154 acres, against 38,123,859 acres in 1889 and 35,430,333 acres in 1879. This shows but little increase in the breadth harvested during the last ten years, though during that period the acreage ran up to nearly 40,000,000 in 1884 and fell away to 34,000,000 in 1885.

The total product is estimated at 399,262,000 measured bushels. The commercial demand that the crop be given in bushels by weight can not be acceded to. While in elevators, on railroads, and in commercial transactions the bushel means 60 pounds without regard to volume, yet farmers are accustomed to use and to think in the measured bushel. To require them to still further complicate their estimates of yield per acre by a mental calculation of quality to ascertain average weight would be unreasonable and the results misleading. The question of quality and weight is an after consideration, and is reported upon by this office in March of each year, when records of inspections are available, when millers and elevator men by actual tests of the scales can give authoritative answers. It is well known that no crop ever averages up to the standard of 60 pounds per bushel, the average for a series of years being probably between 57 and 58 pounds. Past records have shown that the annual variance in weight of the crop is not much more than a pound above or below this average, the extreme range in seven years being from 56.5 in 1888 to 58.5 in 1887.

The season was especially unfavorable in the winter-wheat States, those east of the Rocky Mountains suffering from damage wrought by March freezing when fields were bare of snow protection, and the Pacific coast from floods and overflows in the early spring. In no State in which the winter grain makes the bulk of the product is the rate of yield as high as the State average of the last ten years. The year was more favorable in the spring-wheat districts, the yield in the principal States, except the Dakotas, being quite as large as the average. The division into spring and winter wheat is thus made:

	Acres.	Bushels.	Per acre.
Spring	12,567,050	143,388,000	11.4
Winter	23,520,104	256,374,000	10.9

The value of our wheat crop, unlike that of corn which is regulated by the domestic demand alone, is dependent upon other factors than the volume of our own crop. Its price is affected by the supply of the world, drawn from all sources of production, and as a consequence we have had some large crops with high prices and small crops with lower values. The crop of the United States, however, is a prominent element in determining the world's surplus, and to that extent determines values. The farm value of the present crop has advanced to nearly 84 cents per

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bushel, and the aggregate value is $334,773,678, only $8,000,000 short of the value of the crop of 1889, although the crop is smaller by more than 90,000,000 bushels.

The estimates in detail, by States, are as follows:

States and Territories.	Acres.	Bushels.	Value.
Maine	40,213	543,000	$324,307
New Hampshire	9,155	140,000	101,083
Vermont	19,478	335,000	371,874
Connecticut	1,876	30,000	33,018
New York	640,540	9,288,000	9,287,830
New Jersey	138,833	1,680,000	1,679,879
Pennsylvania	1,337,437	16,049,000	15,888,752
Delaware	94,790	919,000	882,684
Maryland	535,143	6,208,000	5,711,046
Virginia	801,956	5,614,000	5,389,144
North Carolina	717,228	3,156,000	3,155,803
South Carolina	178,609	750,000	787,666
Georgia	344,159	1,411,000	1,552,157
Alabama	293,049	1,319,000	1,437,406
Mississippi	60,750	286,000	314,078
Texas	510,711	3,575,000	3,396,228
Arkansas	221,848	1,575,000	1,543,619
Tennessee	1,175,052	7,873,000	7,636,663
West Virginia	302,086	2,326,000	2,209,759
Kentucky	943,518	9,152,000	8,419,955
Ohio	2,398,741	29,984,000	27,285,679
Michigan	1,501,561	20,271,000	18,243,967
Indiana	2,493,605	27,928,000	24,576,971
Illinois	1,853,173	18,161,000	15,800,153
Wisconsin	1,073,475	13,096,000	10,870,008
Minnesota	3,143,917	38,356,000	31,068,187
Iowa	1,685,080	19,041,000	15,233,123
Missouri	1,603,459	17,638,000	14,639,581
Kansas	2,058,000	28,195,000	21,709,842
Nebraska	1,418,059	15,315,000	11,639,428
California	2,426,730	29,121,000	22,131,778
Oregon	887,250	12,865,000	9,648,844
Nevada	18,489	250,000	214,658
Colorado	96,030	1,777,090	1,439,010
Arizona	25,930	311,000	280,044
The Dakotas	4,209,482	40,411,000	28,287,719
Idaho	83,056	1,370,000	1,068,931
Montana	87,550	1,488,000	1,190,680
New Mexico	90,610	1,105,000	1,050,170
Utah	130,251	2,279,000	1,777,927
Washington	436,275	8,071,000	6,134,027
Total	36,087,154	399,262,000	334,773,678

An examination of the results of each harvest since 1880 shows that in but two years has the average yield been lower than that of the present crop, in 1881 and in 1885, the only years in which the deficiency in aggregate volume was greater. At the same time the average value of the crop has been greater in five years of the eleven, showing that price is influenced in a large measure by the crops of other lands. The average yield per acre has been very uniform during each of the ten-year periods since 1870, the difference being less than one-third of a bushel.

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Years.	Total production.	Total area of crop.	Total value of crop.	Average value per bushel.	Average yield per acre.	Average value per acre.
	Bushels.	*Acres.*		*Cents.*	*Bushels.*	
1880	498, 549, 868	37, 986, 717	$474, 201, 850	95.1	13.1	$12.48
1881	383, 280, 000	37, 709, 020	456, 880, 427	119.2	10.2	12.12
1882	504, 185, 470	37, 067, 194	444, 602, 125	88.2	13.6	11.99
1883	421, 086, 160	36, 455, 593	383, 649, 272	91.1	11.6	10.53
1884	512, 765, 000	39, 475, 885	330, 862, 260	64.5	13.0	8.38
1885	357, 112, 000	34, 189, 246	275, 320, 390	77.1	10.4	8.05
1886	457, 218, 000	36, 806, 184	314, 220, 020	68.7	12.4	8.54
1887	456, 329, 000	37, 641, 783	310, 612, 960	68.1	12.1	8.25
1888	415, 868, 000	37, 336, 138	385, 248, 030	92.6	11.1	10.32
1889	490, 560, 000	38, 123, 859	342, 491, 707	69.8	12.9	8.98
1890	399, 262, 000	36, 087, 154	334, 773, 678	83.8	11.1	9.28
Total	4, 896, 215, 588	408, 878, 773	4, 052, 868, 719	.....	.....	.....
Average, 11 years, 1880 to 1890	445, 110, 508	37, 170, 798	368, 442, 611	82.8	12.0	9.91
Average, 10 years, 1880 to 1889	449, 695, 359	37, 279, 162	371, 809, 504	82.7	12.1	9.97
Average, 10 years, 1870 to 1879	312, 152, 728	25, 187, 414	327, 407, 258	104.9	12.4	13.00

OATS.

There is a decrease from the acreage of 1889 of slightly more than a million acres in the area of oats harvested, but the great falling off in the volume of the crop is the result of the deficient yield per acre. The year was especially unfavorable for this crop from the beginning, and the final yield is the logical sequence of the returns of condition throughout the growing season. The steady enlargement in the volume of this crop has been one of the features of our agriculture during the past decade, and, like corn, the demand has been for domestic consumption. Its use for human food is steadily increasing, though the aggregate thus used is small. Like corn it is used as feed for animals, and there is an intimate relation between the two grains growing out of their interchangeable use. The value of the crop depends partially upon the size of the corn crop, and the present crop, short itself, and coming with a small corn yield, commands a high price. The farm price is the highest in ten years, except in 1881, another year of short corn yield.

The yield per acre averages but 19.8 bushels, the lowest ever returned by this office, while the average for a series of years would not be far from 27 bushels.

As in the case of corn, the short crop of the present year is worth more in the aggregate to producers than the crop of 1889, which was the largest ever grown. With a decline in volume of more than 225,000,000 bushels there is an absolute increase in value of $50,000,000. There is a lesson of wisdom in these figures, a remedy for low prices.

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The estimates in detail are:

States and Territories.	Acres.	Bushels.	Value.
Maine	100,607	2,847,000	$1,622,891
New Hampshire	31,359	862,000	482,929
Vermont	106,591	2,793,000	1,396,342
Massachusetts	23,275	598,000	328,992
Rhode Island	6,545	153,000	82,703
Connecticut	39,019	780,000	413,601
New York	1,343,418	23,913,000	11,956,420
New Jersey	141,537	2,449,000	1,224,295
Pennsylvania	1,277,424	21,972,000	10,546,413
Delaware	22,931	298,000	134,146
Maryland	113,075	1,357,000	597,036
Virginia	672,178	6,587,000	2,964,305
North Carolina	673,672	6,198,000	3,160,869
South Carolina	393,226	4,168,000	2,500,918
Georgia	562,387	5,455,000	3,273,092
Florida	53,540	573,000	349,456
Alabama	405,344	4,864,000	3,015,759
Mississippi	361,992	4,778,000	2,866,976
Louisiana	42,952	567,000	345,849
Texas	639,274	11,059,000	6,082,692
Arkansas	293,831	3,967,000	2,102,361
Tennessee	682,759	6,486,000	2,918,795
West Virginia	142,107	1,506,000	677,850
Kentucky	465,152	3,954,000	1,779,206
Ohio	1,111,332	20,004,00	8,401,670
Michigan	941,088	25,033,000	11,014,494
Indiana	1,017,122	17,800,000	7,297,850
Illinois	3,372,451	70,821,000	29,036,803
Wisconsin	1,496,888	38,919,000	15,567,635
Minnesota	1,500,084	38,402,000	14,208,796
Iowa	2,767,330	71,397,000	27,130,903
Missouri	1,412,571	24,579,000	9,585,707
Kansas	1,302,884	31,269,000	11,882,302
Nebraska	1,053,059	22,430,000	8,747,761
California	70,655	1,943,000	1,088,087
Oregon	221,940	6,658,000	3,329,100
Colorado	100,725	2,498,000	1,248,900
The Dakotas	1,183,157	24,846,000	7,950,815
Idaho	36,440	1,093,000	634,056
Montana	90,235	2,797,000	1,650,398
New Mexico	16,330	392,000	223,394
Utah	38,491	1,059,000	582,177
Washington	104,392	3,497,000	1,643,652
Total	26,481,369	523,621,000	222,048,486

The average value of the present crop has been exceeded by but one crop during the past decade, that of 1881. In that year the yield was only slightly below the average for ten years, and the crop was one of generous proportions. The price was high because of the short corn crop, admirably illustrating the relations between the two grains. The rapid enlargement of the area devoted to oats is shown by the fact that the average breadth between 1880 and 1890 is more than double that between 1870 and 1880. A slight diminution in the rate of yield,

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however, has prevented the average product from doubling during the same period.

Years.	Total production.	Total area of crop.	Total value of crop.	Average value per bushel.	Average yield per acre.	Average value per acre.
	Bushels.	*Acres.*		*Cents.*	*Bushels.*	
1880	417, 885, 380	16, 187, 977	$150, 243, 565	36. 0	25. 8	$9. 28
1881	416, 481, 000	16, 831, 600	193, 198, 970	46. 4	24. 7	11. 48
1882	488, 250, 610	18, 494, 691	182, 978, 022	37. 5	26. 4	9. 89
1883	571, 302, 400	20, 324, 962	187, 040, 264	32. 7	28. 1	9. 20
1884	583, 628, 000	21, 300, 917	161, 528, 470	27. 7	27. 4	7. 56
1885	629, 409, 000	22, 783, 630	179, 634, 860	28. 5	27. 6	7. 88
1886	624, 134, 000	23, 658, 474	186, 137, 930	29. 8	26. 4	7. 87
1887	659, 618, 000	25, 920, 906	200, 699, 790	30. 4	25. 4	7. 74
1888	701, 735, 000	26, 998, 282	195, 424, 240	27. 8	26. 0	7. 24
1889	751, 515, 000	27, 462, 316	171, 781, 008	22. 9	27. 4	6. 26
1890	523, 621, 000	26, 431, 369	222, 018, 486	42. 4	19. 8	8. 40
Total	6, 367, 579, 390	246, 395, 124	2, 030, 712, 605	..... A....	.....	.....
Average, 11 years, 1880 to 1890	578, 870, 854	22, 399, 557	184, 610, 237	31. 9	25. 8	8. 24
Average, 10 years, 1880 to 1889	584, 395, 839	21, 996, 376	180, 866, 412	30. 9	26. 6	8. 22
Average, 10 years, 1870 to 1879	314, 441, 178	11, 076. 822	111, 075, 223	35. 3	28. 4	10. 03

WINTER GRAIN.

The December condition of the growing wheat crop is returned at 98.4 per cent. This is a higher condition than has been returned at the same date for several years, and indicates that the plant generally entered winter quarters in vigorous condition after a good fall growth. There are local exceptions, where from poor seed bed, unfavorable weather, or other causes its vitality was somewhat impaired, but the areas are not large enough to seriously affect the general average. The December return is always high, the young plant encountering its unfavorable conditions during the winter and spring months, so that high condition then indicates little except that during seed time there have been no violent departures from normal temperatnre and rainfall.

Along the Atlantic coast the slight depreciation noted is the result of an excess of moisture, which made planting somewhat late and gave rather small growth before the advent of freezing weather. In the Ohio Valley the weather was generally very favorable for seeding, germination, and early growth, and where snow covered the plant it was in promising condition. Rather more than usual complaint of damage from attacks of the Hessian fly are reported from this section and from Missouri and Kansas. The earlier sown grain especially suffered, and west of the Mississippi River mention of rust or something resembling rust is made. This last complaint is very unusual so early in the history of the crop, and farmers whose fields are affected are at a loss to account for the appearance. Missouri is most affected and the apprehension excited, together with some damage from the fly, is the cause of the comparatively low condition reported from that State.

The condition of rye is slightly higher than that of wheat, the average standing at 99.

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Relative to the general condition of winter grain, State agents write as follows:

CONNECTICUT.—There has been about the usual sowing of winter wheat and rye.

NEW YORK.—The ground was too wet in the autumn to admit of the area of winter grain being as large as last year. The condition, however, was fully as good. The plant made rapid growth up to the middle of November and looked well. The last few days of November were excessively cold, and the severe freezing of the ground was not favorable, as in a considerable portion of the State it was bare.

PENNSYLVANIA.—The fall was one of unusual moisture. September, October, and the early part of November were characterized by comparatively little sunshine. These climatic conditions seem to have favored some peculiarly unfavorable conditions of wheat and rye. In 57 per cent. of the wheat-growing area from which reports were received wheat sown before September 20 showed a fine growth, but about the middle of October it began to turn yellow in the lower leaves. Some attribute it to the Hessian fly, some to insects at the root, and others to excessive moisture and lack of sunshine. But while the Hessian fly is reported as quite bad in some sections, this peculiar condition was due to neither rust, fly, nor insect. Like the oat disease, it was worse in wet lands than in dry; worse in early-sown fields, and not appreciable in the late sown. The plant has improved in appearance during the last three weeks; the stalk is not so much affected, but the leaves are quite yellow. This appearance is not materially worse in oat stubble than in wheat stubble or fallow lands.

VIRGINIA.—The early-sown wheat is doing well, but that sown late failed to get a good stand owing to the dry fall. The dry weather also has prevented the wheat in many sections from spreading, and it is feared that a freeze may injure the roots very much.

NORTH CAROLINA.—The month of November was remarkably favorable for seeding winter wheat and rye, which were put in with more care than usual. The area sown is about the same as last year and the stand is good. The appearance of the louse, which was so destructive last year, is reported in only one county.

SOUTH CAROLINA.—A very small proportion of the wheat and oat crops has been planted, owing to the difficulty of obtaining labor during the cotton-picking season.

GEORGIA.—The weather conditions have been unfavorable for sowing fall grain of all kinds, the ground in the latter part of the month being too dry for plowing and for seed germination. The yield of wheat was so small that farmers have become still more discouraged in their efforts to produce their own flour and many have finally abandoned the crop.

ARKANSAS.—The area sown to winter wheat and rye is about the same as in former years. The growing plants are in excellent condition.

TENNESSEE.—There is probably not quite as much wheat sown as there was last year, but its present condition is excellent. The acreage of rye sown is about the same as last year, and its condition is very fine. A considerable portion of it was evidently sown for winter pasturage, to supply the deficiency occasioned by short yield of other cattle food.

KENTUCKY.—The wheat crop is looking well, but seeding was nearly two weeks late in most parts of the State on account of excessive rains.

OHIO.—Winter wheat is above the average both in area and condition. There was no rain to start the grass or weeds after the last plowing of corn, and the land was in splendid condition for the sowing of wheat among the corn or on ground where the product had been put in shock. On account of the frequent rains following the sowing there is an excellent outlook, with a large area well set with strong plants. The increased price realized on the wheat crop of 1890 was another great incentive to an increase in the acreage of wheat.

MICHIGAN.—The area of wheat sown is largely increased over that of last year and it is looking remarkably well.

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INDIANA.—Winter wheat and rye have rarely been in better condition at this season of the year; completely covering the ground, the growth affords excellent winter protection.

ILLINOIS.—The advance in the price of wheat has stimulated production by increasing the area seeded to fall wheat in all parts of the State as compared with that seeded in 1889. The condition of the crop is above an average in both the northern and southern divisions, as in most parts of these divisions there has been sufficient moisture to promote growth and but little insect injury. In the central division the condition is but 90. In many localities in this part of the State there has been a scarcity of moisture, retarding the growth of the plant, and the injury to it by the ravages of the Hessian fly is greater than in both of the other divisions together. Winter rye shows a slightly reduced area as compared with that of last year, but the condition of the crop is a full average.

WISCONSIN.—The weather during November was most excellent for fall plowing and all fall sowed grains show a fine condition owing to copious rains early in the season.

MISSOURI.—A largely increased area of wheat was sown this fall. Favorable conditions for seeding and growth prevailed, but there is more complaint of the Hessian fly than has ever before been known and the complaints come from all sections of the State.

KANSAS.—The increase of area seeded to wheat this fall over that of last year is fully one-third. The Hessian fly is reported as doing considerable damage to early sown wheat in several counties of the eastern portion of the State. But little injury is reported in the central portion and none in the western. With close pasturing and winter freezing it is thought that the ravages of this pest will be substantially checked. The plant from late seeding, in all sections of the State, has never appeared to be in a better condition than at this time.

The averages by States are presented for both wheat and rye:

States and Territories.	Condition		States and Territories.	Condition.	
	Wheat.	Rye.		Wheat.	Rye.
Connecticut	100	100	Arkansas	98	99
New York	100	99	Tennessee	96	99
New Jersey	93	99	West Virginia	95	97
Pennsylvania	99	99	Kentucky	98	99
Delaware	89	100	Ohio	101	100
Maryland	92	100	Michigan	101	101
Virginia	94	93	Indiana	102	101
North Carolina	96	97	Illinois	96	101
South Carolina	93	92	Missouri	95	97
Georgia	98	98	Kansas	97	97
Alabama	95	100			
Texas	101	100	General average	98.4	99

A few notes from returns of correspondents for the States of principal production are presented for the side lights which they throw upon local conditions:

PENNSYLVANIA.—*Monroe:* Stand good. *Indiana:* In good condition; no frost to mention as yet. *Northumberland:* Looks well except where seeded too early. *Schuylkill:* Condition very good. *McKean:* No seeding of wheat; too wet. *Snyder:* Early sown is not doing well, the louse is preying upon it; that sown between September 15 and October 1 is looking well. *Wyoming:* Is not looking well, has a yellow and unhealthy appearance. *Armstrong:* Less wheat than usual put in on account of wet weather; too wet to plow. *Crawford:* Nearly the usual area sown. *Fayette:* Owing to continued wet weather there was 10 per cent. less wheat sown than if circum-

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stances had been more favorable; thus far, wheat generally looks well. *Union:* Much of the early-sown wheat turned yellow from some cause; some complaint of fly. *Montgomery:* Some wheat was sown very early and has made too much growth, and some was sown too late; condition slightly below an average; all sown between September 10 and 25 looks well.

MARYLAND.—*Queen Anne's:* Most of the wheat seeded was put in late, on account of excessive rains, but the very fine weather of November has brought it out nicely. *Talbot:* Seeding much interfered with by rain; thin in appearance and growth backward. *Kent:* Is generally backward, owing to the wet season and consequent delay in seeding. *Calvert:* The fall has been very favorable for seeding, and the stand is looking well for the season. *Prince George's:* The cold rains of October were adverse to wheat sown late, and it has been slow in germinating; though of good color not as high as desirable.

VIRGINIA.—*Chesterfield:* The season for sowing has been quite wet; seeding was late and is just about finished. *Northumberland:* Owing to a very wet October, seeding was late; no rain has fallen in November, consequently wheat has not made much growth; a good stand. *Rockingham:* Is looking first rate. *Stafford:* Well taken; condition healthy. *Bland:* Was sown a month later than last year, and is as promising to its age as last year. *Henrico:* Was mostly sown in November, and some not yet in sight; October was exceedingly wet and no seeding could be done; acreage reported above average. *Westmoreland:* Wet weather made seeding late, and in some instances much of the seed rotted in the ground. *Madison:* Owing to extreme dry weather is not coming up well. *Middlesex:* Is looking well considering the very dry weather. *Nottoway:* Weather much too dry; is coming up badly. *Surry:* More sown than for several years past. *Halifax:* Is needing rain. *Warren:* Needs rain. *Pulaski:* Condition very favorable. *Amherst;* The fall has been rather dry for wheat. *Appomattox:* Acreage short, owing in a great degree to scarcity of labor. *Botetourt:* Owing to protracted drought has not germinated well, much failing to come up. *Dinwiddie:* The season has been extra good for seeding. *Essex:* Limited area owing to exceptionally wet season. *Lunenburg:* Is suffering for rain; the dryest fall for many years.

NORTH CAROLINA.—*Lenoir:* Is just being sown; area will probably be larger than last year. *Yadkin:* The largest crop ever sown in this section and great care taken in seeding, much fertilizer being used. *Forsyth:* Very dry weather for wheat. *Alamance:* A greater per cent. damaged than usual, but still a good average crop for any year has been made. *Caswell:* Finest weather for seeding for several years. *Guilford:* The soil was in a favorable condition when seeding was done, but wheat looks badly owing to drought since sowing. *Iredell:* An unusually favorable fall for seeding and an increased acreage sown. *Buncombe:* Somewhat backward owing to a very dry November. *Alexander:* Has not come up well owing to drought; no rain since seeding.

TENNESSEE.—*Monroe:* The acreage of wheat sown this fall is fully 40 per cent. short of the crop sown in 1889. *Hancock:* Wheat sowing ended. Area small on account of scarcity of seed. *Jefferson:* Sowing a little late, but fine, warm weather has brought it forward to its average condition. *Moore:* The amount sown is not as large as last year, but is put in, in good condition, and is looking well, considering the very dry weather. *Dyer:* Wheat is looking fine, and shows a promising prospect. *Washington:* The growing crop looks badly. *Cheatham:* Sown late, but looking well. *Williamson:* Area as large as last year, condition very fine, and favorable for a good crop. *Gibson:* The season has been very favorable for the growth of wheat, giving it good root to withstand the freeze of winter. *Blount:* Poor crop; both in quality and quantity. *Hamblen:* Fly working on early sown; late sown needs rain. *Hardin:* Looking fine, and good stand. Acres short, on account of scarcity of seed. *Hawkins:* Early sown wheat looks well. Dry weather is retarding if not actually injuring late sowing. *McMinn:* Suffering for rain. *Sequatchie:* Wheat is well sown, and in good

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condition. Weather is rather dry, and is now needing moisture to bring out the young plant. *Cooke:* Dry weather has retarded the growth of wheat, it has but little root, and a feeble growth. *Marshall:* More care has been taken in seeding than usual; the wheat is looking fine. *Sevier:* The weather has been fine for seeding. Crop is put in much better than usual. *Lewis:* But little sown.

Kentucky.—Fleming: Has not made much growth as yet, a great part of it having been sown unusually late. *Edmonson:* Looks fine. *Bracken:* In healthy condition; weather unusually favorable for growth. *Hardin:* Looks well, though most of it was sown somewhat late. *Nicholas:* Makes but little show above ground as yet as it was sown late in consequence of wet weather, but it has germinated well. *Wolfe:* Looks well. *Hickman:* A very large acreage sown and it is in fine condition though seeding was late. *Nelson:* Very promising. *Boone:* Looks fine. *Grayson:* Indications of slight damage from fly. *Shelby:* Backward in growth owing to lack of moisture. *Ballard:* An unusually large crop sown. It is somewhat late but is branching well. *Kenton:* Looks well; early sown has stooled out finely. *Morgan:* Somewhat backward in growth; a considerable decrease in area. *Clinton:* In backward condition owing to the wet season at time of seeding. *Lincoln:* Season very favorable; plant strong and vigorous. *Pendleton:* Growth but slightly checked by frost or freezing up to date. *Spencer:* Increase in area on fallow lands; a decrease in that on corn ground owing to the fact that the corn had fallen badly. *Russell:* Sown late in consequence of the wet season and has made but slow growth.

OHIO.—*Auglaize:* Prospect the finest in many years, the fall season having been remarkably favorable. *Ashland:* A large acreage sown, and it is looking fine. *Huron:* Looks well generally; has been injured by the fly in some localities where sown early on sandy soil. *Mahoning:* Some fields turning red; damaged by excessive rains. *Pickaway:* Looks well. *Shelby:* Has made a fine growth and is in good condition; a few slight indications of Hessian fly appear where very early sown. *Vinton:* Early sown looks remarkably promising, but the greater portion was put into corn ground and seeding was delayed by wet weather, which interfered with corn cutting. *Wyandot:* Growing finely; favored by mild weather. *Lorain:* Has made rapid growth in consequence of the mild weather and looks fine on dry lands; on low lands it has suffered somewhat from continued rains. *Tuscarawas:* Fall exceedingly favorable and the prospect fine. *Columbiana:* Has made an extra fine stand, with the prospect for a full average crop next year. *Franklin:* A full acreage sown and the prospect has never been better. *Hamilton:* Increased acreage sown; looks fine. *Logan:* A large area sown, and it is now in the best possible condition. *Paulding:* A remarkably fine season for seeding and growth. *Ross:* Looks fine and has made a vigorous start. *Sandusky:* A stronger growth than usual at this date, owing to the wet fall. *Union:* Acreage slightly increased; prospect good. *Van Wert:* Goes into winter quarters in good shape. *Delaware:* Condition was never better at this date. *Fulton:* Has made an unusual growth in consequence of the mild, moist weather since it was sown, and the plant has a vigorous stand; it will go into the winter under most favorable conditions. *Monroe:* Much was sown too late in consequence of the wet fall. *Portage:* Unusually promising. *Vinton:* Has suffered somewhat from excessively wet weather, and not in as good condition as was promised earlier in the season. *Allen:* Enters upon the winter in prime condition. *Clinton:* A large acreage sown, and the prospect is good. *Knox:* In good condition for entering upon the winter.

MICHIGAN.—*Kalamazoo:* In fine, growing condition. *Iosco:* Area largely increased. *Ionia:* But little difference in the area sown; plant in fine condition for entering upon the winter. *Ottawa:* Leaves of the plant beginning to look quite yellow in many fields in consequence of the dry weather, which has prevented it from getting a healthy growth. *Allegan:* A fine growth. *Branch:* The finest prospect in many years. *Clinton:* An increased area sown; condition very fine. *Hillsdale:* Increased area due to more favorable conditions for seeding; very early sown appears to be injured

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by insects, later sown is in prime condition. *Mason:* A very favorable season; condition good. *Alcona:* An increased acreage sown, there being a better prospect for a good demand at home. *Kent:* Has a good top growth. *Muskegon:* Increase in area, due to increased number of farms cultivated. *Monroe:* In unusually good condition; some complaint of fly in early sown. *Oakland:* Was never in more promising condition at this period. *Genesee:* There is considerable complaint of injury from the fly and other insects in some portions of the county; where phosphates are used they are comparatively harmless.

INDIANA.—*Gibson:* Was sown late and has not made much advance in growth as yet. *Daviess:* In fine condition. *Jay:* A splendid prospect. *Kosciusko:* In the finest possible condition; some traces of the fly are observed. *St. Joseph:* A splendid growth; prospect better than for many years. *Wells:* Has had a better start than at any time within three years, and will go into winter quarters in the best condition. *Sullivan:* Above the average notwithstanding the fact that many fields have been badly damaged by the Hessian fly. *Vermillion:* Acreage small; late sown is very fine; early sown shows the work of the Hessian fly somewhat. *De Kalb:* Never looked more promising. *Tippecanoe:* It is feared that the Hessian fly will injure the crop, the fall having been unusually favorable for the ravages of this pest. *Union:* Never looked more promising. *Fayette:* Looks well; season very favorable; no damage from fly. *Lawrence:* The greater part of the crop was sown late but now doing well, the season being a fine one. *Shelby:* Nearly a full area sown and it is now in fine condition. *Washington:* A remarkably fine season; the plant has grown steadily ever since it was sown and has been troubled but little by the fly. *Wayne:* Looks unusually well everywhere. *Whitley:* In good condition. *Posey:* Prospect good; season favorable; plant not troubled by fly or other insect pest. *Allen:* An increase of fully 25 per cent. in acreage sown; condition very fine. *Franklin:* Looks well; in some places the growth is excessive and it is in danger of freezing, as was the case last year. *Hamilton:* Has started finely and is in good condition for entering upon the winter; some indications of fly in early sown. *Marion:* An unusual amount sown; condition was never better at this date. *Jay:* In good condition

ILLINOIS.—*Christian:* In fine condition. *Clinton:* Very promising. *Henderson:* Making good growth notwithstanding the dry season; has been benefited by recent rains. *Jackson:* In full average condition, though much of it was sown late. *Jersey:* Looks well. *Jo Daviess:* A large acreage sown and the prospect has never been better. *McLean:* Somewhat thin on the ground owing to the continued drought; otherwise it is good. *Peoria:* Area largely increased; some complaint of injury from insects in the earlier sown. *Shelby:* The fly has appeared in some localities, in consequence of the very dry fall. *Wabash:* Kept growing by the warm, moist weather. *Lee:* Looks fine. *Hardin:* A good prospect. *Edgar:* Never looked finer at this date; a slight decrease in acreage. *Livingston:* In excellent condition. *Marion:* Indications of a bountiful crop next year; weather very favorable. *Morgan:* Weather too dry; the plant is being damaged by drought and the fly. *Randolph:* Looks fine and promises a big harvest for next year. *Washington:* In fine condition, indicating a good crop. *Marshall:* A large increase in area, and the crop is in splendid conidtion. *Adams:* The fly has made its appearance in almost every field; the extent of damage can not be estimated at this date; the pest has never visited us in such great numbers before; some fields are partly dead from its effects already. *Calhoun:* Badly in need of rain. *Edwards:* A fine prospect. *Greene:* Looks remarkably well, but needs rain before going into winter quarters; many farmers are heavily rolling their fields and apparently with good results. *Jasper:* In fine condition for entering upon the winter; is strongly rooted and shows no signs of damage from fly. *Johnson:* Looks well, having had fine weather for starting a growth. *Saline:* Average condition would be 100 or more but for the injury from Hessian fly, especially to early sown. *Warren:* A considerable increase in acreage and the prospect was never better. *Bond:* Suffering from the warm, dry weather of November; some

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fields that were drilled in very early are seriously injured by the Hessian fly; the plant is not making a good growth. *Ford:* But little grown in the county; it has made a good growth where sown. *Logan:* An increased area sown. *Moultrie:* Area sown equal to that of the two last years together. *Tazewell:* A large acreage sown, and it is in first-rate condition; some complaint of fly on sandy soil. *Winnebago:* Has made a good growth and is in condition to stand the winter well.

MISSOURI.—*Saline:* Badly rusted, especially early sown; something very unusual. Rust on wheat in the fall was never known before. *How will it affect it next spring? Harrison:* Fine fall for seeding and wheat never looked so well before at this time. *Lawrence:* Low average is due to late sowing, caused by excess of rain in September and October. *Livingston:* Some complaint of flies and rust. *Maries:* Good stand, but short growth. *Newton:* About 8 per cent. only sowed October 1, the great bulk being sown after October 10. *Phelps:* A No. 1. Fall was very favorable. *Wright:* Less sown than usual, because of excessive rain at plowing and seeding time, and for same reason it is late and not in good condition for winter. *Gentry:* Damaged by Hessian flies. *Chariton:* Supposed to be damaged by flies, but the extent of injury is unknown. *Crawford:* Too much rain in latter part of September, and a great deal of wheat was sown in mud. The fall was too dry and the crop does not look so well. A hard fall on late-sown wheat. *Lincoln:* Good condition, but needs rain. *St. Charles:* All wheat sown early on old stubble is damaged 50 per cent. by Hessian flies. Fall very dry. *Carroll:* Early sown was slightly injured by flies. *Christian:* Seeding was very late, because of rain, but fine weather later advanced it to a good condition. *Holt:* Had enough rain to start it. *Howard:* Damaged by Hessian flies; most of early sown is considerably injured. *Lafayette:* Making a fine growth and looks remarkably well. *Platte:* Locally damaged by flies, otherwise looks well. *St. Louis:* Slightly injured by the unusual drought in October and November. Also damaged a little by flies. *Buchanan:* Area is largely increased—generally estimated at 25 per cent., which is probably too large. It is suffering much from rust; some say Hessian flies on land run in wheat last year. *Hickory:* Fall has been favorable. Wet at sowing time decreased area; some fields were prepared, but not sown. *Oregon:* Looks well, but is rather late. *Sullivan:* The largest area in the history of the county. Some complaint of flies. *Mississippi:* Sown in fine condition, came up well, and now looks fine. *Scott:* Weather was very favorable for seeding. Some Hessian flies in early-sowed wheat. *Caldwell:* Excellent condition and has a fine start. *Macon:* Looks well. It made good growth in north of county, where abundant rain prevailed. Rather dry in south of county. Some complaint of Hessian flies. *Moniteau:* Came up well and looks promising. *Andrew:* Injured by flies very much and fields are yellow in spots. *Cape Girardeau:* Sown late, owing to rains, but subsequent fine weather gave it a good start.

KANSAS.—*Butler:* Slight complaint of Hessian flies locally. *Clark:* Nearly all cultivable land was put to wheat and rye. *Ellsworth:* Condition becoming alarming owing to land being so dry and loose. *Garfield:* Early sown came up and then dried up. A great deal sown in dust and just appearing. Seeding not all done, and ground is dry underneath. *Gore:* Looks fine; season was never finer. *Hamilton:* Snow in November gave abundant moisture. Much grain had lain in land unsprouted, but the good, warm days started it. *Morton:* Some early sown died out from drought, and late sown has not yet appeared. Sowing now going on and will through December. *Osage:* Favored by the mild fall; area largely increased. *Barton:* Good stand and large. Condition could not be better. *Cherokee:* Area doubled and condition good. *Cowley:* Double the area ever sown before, and it never looked better. *Norton:* Drought just broken by rain and sleet and the wheat is starting. *Barber:* Early sown is making excellent pasture. Abundant rain. Our wheat could not look much better. Some of the last sown has but two blades. It would do any farmer good to see the vast extent of wheat in the eastern part of the county—it is grand. *Ford:* A big area was sown. Early sown looks well; late sown is not

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all up. *Graham:* Now being sown. *Labette:* Never looked better except in a few localities where Hessian flies are injuring it. *Miami:* Some early sown is damaged by flies. *Phillips:* Weather very unfavorable for germination, being too dry. Plant looks quite weak. Some just appearing. *Brown:* More sown than usual. *Bourbon:* More sown than usual. Soil was excellent. *Ellis:* Area largely exceeds that in 1889, and condition never so good December 1 as this year. *Pawnee:* Too dry, and should drought continue wheat will be light. *Republic:* Looks well throughout the county. Large area sown. Needs rain. *Saline:* Complaint of Hessian flies in early sown. Much damage claimed. *Hodgeman:* Suffered from the very dry November. *Linn:* Increased area is due to absence of chinch bugs. Condition is all that could be desired. Some fields made so large a growth that they are being pastured. *Montgomery:* Never looked better. Some will hide a rabbit. Some signs of flies locally. Soil in excellent condition for winter. *Comanche:* Moderate growth, owing to drought. Appears wilted on some soils. Generally it does not look vigorous or strong. Rain much needed. *Dickinson:* Some early sown being damaged by Hessian flies. *Franklin:* While it looks splendid there is danger of overgrowth. Early sown being somewhat damaged by flies. *Jackson:* Some early sown damaged by flies.

FARM PRICES.

The December returns give the average farm prices of agricultural products by counties, which are consolidated in this office to obtain accurate averages for the several States. State agents obtain similar estimates from their county reporters, review and consolidate by the light of all other information and forward averages for their State. The estimates given in this report are made after a careful consideration of these duplicate and independent sources of information, which are this year in remarkable agreement, and they may be relied upon as the true measure of the value of the crops of the year in the hands of farmers. Correspondents are instructed in making their estimates to give as near as possible the average selling price of the different crops on the farm, or at the nearest local market, mill, or elevator; of course only the local product is considered in striking the average value, and for this reason it may sometimes happen that where a crop is grown in but limited quantity the farm price will be quite as high as the commercial price of the same commodity shipped into the State from other fields of production. This preference for home product often appears in commercial quotations, especially in New England, where State grain is often quoted higher than the Western product. As a rule, however, our returns of farm prices are verified by commercial quotations in market centers, the difference being about the measure paid for transportation, commissions, and handling charges between the farm and the final warehouse.

Our reports of State prices from year to year show a gradual leveling up of values in the different States, due to two causes, cheaper and better transportation facilities from the farms of the West to the consuming markets of the East, and to the increasing proportion of non-rural workers in the great agricultural States. The difference between the value to the grower of a bushel of grain in New York and in Ne-

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braska grows less as the States are brought closer together in facilities for communication.

Prices of almost every staple product of the farm are higher this year than for several seasons, resulting from shortened product in almost all lines of production. Short crops have proved a cure for low prices, but the limitation of production results from natural causes, and another bountiful season may again bring about low values. It is an experience this year of many farmers that the smaller number of bushels of corn or oats grown by them is worth much more than the larger product of last year. Unfortunately, however, the districts of crop failure do not realize their portion of the advance in average value.

The present corn crop is worth more in the aggregate than the last, notwithstanding the great reduction. The average price as returned is 50.6 cents per bushel, against 28.3 cents for the crop of 1889, an increase of 77 per cent. It is the highest December price of the decade except that of 1881, the only year in which the final average of condition was worse than that of the present season. The average price then rose to 63.6 cents, and that of the following year was 48.4, with a better crop than the present. The next highest average is 44.4 in 1887, following three years of large crops and cheap corn. The price therefore depends upon the quantity grown in the year, plus the reserves from preceding years. The present average shows that small crops are a sure cure for low prices, and that the law of demand is still the main factor in making prices and profits. The prices in the seven corn-surplus States are: Ohio, 51; Indiana, 47; Illinois, 43; Iowa, 41; Missouri, 44; Kansas, 51; Nebraska, 48.

The average farm value of the wheat crop, as estimated, is 83.8 cents per bushel, against 69.8 for that of 1889, an increase of 20 per cent. on the price of last year. The value of wheat is affected by the harvests of the world, while corn is not, and therefore wheat prices are not entirely governed by the size of the home-grown crop. This fact, which is often overlooked by writers on this subject, is strikingly exhibited by a comparison of records of production and price of recent years. In 1885 the wheat crop, though smaller than that of the present year, brought but 77.1 cents per bushel while the crop of 1882, aggregating over 500,000,000 bushels, the second largest ever grown, sold at 88.2 cents. The increase in farm price over the returns of last year in a few of the principal States is presented: Ohio, 15 cents; Michigan, 16; Indiana, 17; Illinois, 17; Wisconsin, 13; Minnesota, 10; Iowa, 17; Missouri, 19; Kansas, 22; Nebraska, 24, and California, 6.

The price of oats has responded sharply to the pressure exerted by a small crop and the increased demand for consumption because of the shortened corn product. The relation between these two crops is very intimate and strikingly exhibited by a study of the records of production and price for a series of years. In studying the effect of the law of demand upon the price of this grain, it is necessary to consider the

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scarcity or abundance of corn, so interchangeable are these two grains in their uses. The present season gives both a short corn and oats crop, and as a result there is an advance in price from that of last year, amounting to nearly 90 per cent. The present average is 42.4 cents against 23 for 1889. This is the highest price recorded during the present decade, with the sole exception of 1881, when conditions were very similar, a short crop being made in conjunction with an even smaller corn crop than that of the present year.

Rye, like oats, with an average of 62.9 cents per bushel, is higher than it has been since 1881, and the same is true of barley at 61.8 cents. Buckwheat makes nearer an average yield than any other cereal this year, and as a consequence the price has advanced but little. The average is 57.7 cents, which is somewhat lower than the average in 1888.

The deficiency in the potato crop has caused an advance in values in all sections of the country. The average reported is 77.7 cents, an increase of more than 90 per cent. over prices ruling in December of last year. But once in the last twenty years has the farm price been reported by our correspondents as higher, in 1881, when the crop was but slightly over 100,000,000 bushels and the yield per acre 53.5 bushels.

The season was generally favorable for the hay crop in almost all sections of the country, resulting in an increased product. This has naturally affected the value, and hay alone, of all farm crops, shows a price lower than that of last year. The average is $7.74 per ton, against $7.88 in December of 1889.

The returns of value of cotton on plantations are nearly the same as in December of last year, the general average being quite as high, or 8.6 cents per pound. As the average export price for the present crop slightly exceeds 10 cents, this makes the cost of shipment, by wagon and railway or steamer, drayage, commission, compressing, and other expenses, nearly 1½ cents per pound. The average farm price by States is: Virginia, 8.7; North Carolina, 8.7; South Carolina, 8.7; Georgia, 8.6; Florida, 8.6; Alabama, 8.6; Mississippi, 8.8; Louisiana, 8.8; Texas, 8.4; Arkansas, 8.5; Tennessee, 8.4.

NOTES FROM REPORTS OF STATE AGENTS.

MAINE.

The month of November has been very favorable for farm work. The weather has been mild, and excepting in the more northern counties no snow has fallen. Throughout the entire western, seacoast, and middle counties the ground was entirely bare throughout the month. In Aroostook, north Penobscot, and north Piscataquis snow fell to the depth of 4 inches, November 25, and made fairly good sleighing. The lateness of the planting season for corn, together with the low temperature of the summer months, combined to reduce the chances for an average crop.

Grain is generally below the average and of light weight. The area of wheat, rye, and buckwheat is lessening from year to year, although of buckwheat, in the counties

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where grown, the area is fairly well kept up. Mixed grain (barley, oats, and wheat) is much sown for feeding to dairy cows, and is growing in favor. On account of the wet and late spring it was largely sown in place of corn.

Potatoes have rotted less where planted with special fertilizers than where barn manure was used. The prices of all grains and hay are much higher than in 1889.

NEW HAMPSHIRE.

Corn and potatoes made a better crop than last year. The oat crop is very light, while buckwheat is nearly up to the yield of last year. Potatoes are reported as still rotting somewhat in cellars, but the complaint is not general. The hay crop, though lighter than last year, is of excellent quality. Prices of farm products average rather high.

VERMONT.

Corn came in better than was expected both in quantity and quality, as frost held off until it was nearly or quite mature. Grain, with the exception of oats, is of good quality. Oats are light in weight and somewhat damaged in harvesting. Potatoes are of excellent quality as a whole. Only two counties report damage from rot, and none seem rotting in cellars except those put in very early. The price is constantly increasing.

CONNECTICUT.

Corn turned out well, generally, and especially well in the best corn-producing sections. The oat crop was fairly good in the portion of the State where the bulk of the crop is raised. Buckwheat had an increased acreage and product, the only drawback being occasional sprouting in the field.

The quality of potatoes is excellent, but damage by rot made the yield very irregular, as also the price. Tobacco was a good crop, with less injury in curing from pole sweat than was feared. Hay was abundant and secured in fine condition. There is apparently a surplus, but the high price of grain will increase home consumption.

NEW YORK.

A considerable portion of the corn was found to be soft and immature when husked. The weather was too cool and wet for it to ripen well, especially the late planted. The yield was greater than last year, but the quality on the whole not so good. The yield of winter grain was also greater, while oats and barley were less. Buckwheat is also a little less, as the weather was unfavorable for the maturing of the early sown. Potatoes dug late were so impregnated with rot that they continued to decay in the cellars. The yield was greater this year than last, but the loss has been a great deal more, which has made the price exceedingly high. Many people are using turnips and other vegetables in the place of potatoes, as these vegetables are much cheaper.

There was a large growth of tobacco, but there are complaints of its being reduced somewhat in value. On account of the superior seeding in 1889, the hay crop was increased and the favorable season for growth made it the most productive crop of the year. A great deal has been injured in stacks, on account of the excessive rains, and this has brought down the general average of value.

Efforts have been made to utilize sorghum for silage, but as its cost is more than that of corn-fodder, on account of the smallness of the plant and the difficulty of keeping the weeds from overrunning it, its culture for this purpose is generally abandoned. On the other hand the area of fodder corn is constantly increasing and the number of silos has multiplied in all parts of the State. The area of beans, which are an important crop in western New York, was larger this year than last, but the rains at harvest time damaged them fully 50 per cent.

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NEW JERSEY.

The crops of corn, potatoes, and hay have been large. Late planting of corn in the northern part of the State and imperfect maturing, both caused by excessive wet weather, have reduced the crop average somewhat. Both wheat and rye are shortened from 15 to 25 per cent. by the early ravages of the wheat louse, shriveled grains being the result. Oats were so badly injured at the root and on the leaf by insects and blight that the crop is below all precedent and poor in quality. Buckwheat has been a good crop.

Potatoes, the largest crop ever grown, were greatly reduced as to market value by rot. In some counties whole fields, that would usually yield 300 bushels per acre, were left without digging, cutting down the crop two-thirds in the counties affected.

Hay is a large crop, and was harvested in good condition.

VIRGINIA.

The fall was exceptionally good for saving the corn crop. A few counties report a little as rotting. The price is higher than last year. The wheat crop did not fulfill the promise of the fall of 1889, much of it being light in weight and in yield. Oats were very poor. Irish potatoes were good generally as regards quality, but the fall crop was poor and lowered the average.

Though the actual product of hay was not as large as last year as it was nearly all saved in excellent condition. Cotton is at least a third better than last year.

NORTH CAROLINA.

November was remarkably dry and warm, affording an unusual opportunity for gathering crops. There is an increase in the product of corn, tobacco, hay, and cotton as compared with last year, and a marked increase in the area of peanuts and sorghum. There is a decrease in the product of wheat, oats, and rye, but no marked change in their price.

SOUTH CAROLINA.

The yield of corn has not reached the expectations of a month ago owing to the bud worm on bottom lands in the spring and excessive rains in the early fall. Since the crop has been housed the grain has been injured by the weevil.

There is more open cotton in the fields at this time than there has probably been before since the use of commercial fertilizers became so extensive. The rains early in the picking season injured open cotton, but caused the later crop to mature, increasing the product considerably. The fiber is fine and strong although slightly damaged by discoloration. Wages for picking were advanced, but even this has not secured sufficient labor to gather the crop. The rapid decline in price has been disappointing, and farmers fear that the large crop of the present year will yield little more money than the smaller one of 1889. One correspondent reports the plowing under of considerable cotton with small grain on account of low prices and difficulty in obtaining labor for picking.

GEORGIA.

The entire month of November was remarkable for the prevalence of clear and fair days. No rain fell during the month over the greater part of the State. This has enabled the farmers to gather the latter portion of their cotton crop in good condition. The weather was also very favorable for harvesting sweet potatoes and an unusual yield has been safely housed.

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LOUISIANA.

The yield of corn per acre throughout Louisiana, except on the alluvial lands which were subjected to damage from overflow, has been nearly up to an average and in quality fairly good. There are still many complaints of serious damage from the ravages of the weevil, especially in the softer varieties lately introduced, while the hard or flint varieties seem to be almost entirely exempt. Red oats, the species generally grown and heretofore supposed to be entirely exempt from rust, have been seriously injured in that way this season. A variety known as the Burt is reported to be as yet entirely free from this disease. The general yield has been smaller, but the grain of better quality than usual.

Early plantings of potatoes resulted in failure, owing to late frost, but those planted a month later escaped and made a large yield, the quality of which was very good. Fall potatoes of Louisiana growth cut no figure in our markets, which are now supplied from the North and West. Sweet potatoes are grown universally throughout the State. The average yield is excellent, but prices are low. County correspondents report a largely increased tonnage of hay. Rain during the harvest season seriously interfered with proper curing, hence the quality is not equal to that of the average year.

Favorable weather during the past month has facilitated cotton picking to such an extent that the crop will be entirely out of the fields by December 15. The staple, though below the average, is much improved over earlier pickings and more free from trash and dirt. Notwithstanding the very low and unsatisfactory prices it is being rapidly rushed into the market.

Farmers report the tonnage of sugar cane this season as something phenomenal. Thirty, 40, and even 50 tons per acre have been reported, but it is not very rich in sugar content. Open-kettle (the old process) methods of manufacture do not pay the present cost of production. Others, having better machinery, with improved methods of extraction and manufacture, are doing much better. The weather for the past month has been exceedingly favorable for harvesting the crop.

Owing to excessive rains during harvest the average yield of rice will scarcely exceed 10 barrels of 162 pounds of rough rice per acre. The market, however, has ruled higher this season than for some years, which will be a partial compensation.

ARKANSAS.

The past month has been unusually favorable for all farm work; especially so for cotton picking, corn gathering, the sowing of winter small grain, and the gathering and storing of vegetables, and the work of the season in this direction is about completed. The corn crop will probably amount to something over half of an average crop, while in point of quality it is quite inferior, having been injured by the extreme wet weather of September and October. A great deal is reported as being "worm eaten and smutty."

Irish potatoes are about two-thirds of an average crop. The late or second crop seems to have been of a better quality than usual, with more than an average yield in many localities. The sweet-potato crop is an average one in both yield and quality, and the same may be said of tobacco. The hay crop also was at least a full average one and was saved in good condition.

There is some improvement in cotton over the estimates of last month. The maturing of the top crop, under the favorable conditions of the past three weeks, has assured nearly a full average crop. The sorghum crop has been gathered and manufactured, and in yield of sirup and quality also is a full average crop.

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TENNESSEE.

During the past month the weather has been exceptionally mild and clear, with only one rainy spell, lasting about three days. Under such favorable conditions farm work of all kinds has been vigorously pushed. The corn crop, which has nearly all been gathered, is still a source of complaint among the growers, not only on account of the small yield, but also because the damage by rot and smut is greater even than was supposed. The injury from rot, however, can only be guessed at, as the crop is not yet husked.

Irish potatoes are almost a failure, taking the crop generally over the State, and the price is high. Sweet potatoes made a fair yield, and the price is correspondingly moderate. The bulk of the cotton crop has been picked and housed. Such as has been ginned indicates better staple, but smaller quantity than was estimated at the first of the month. The price is very unsatisfactory, and allows no profit on cost of production in this State.

OHIO.

Corn is a short crop excepting in a few localities favored by showers during the general drought. The weather during November was favorable for gathering the crop and where the soft and sappy ears have been thrown out it is in good condition. The scarcity of corn has created something of a panic among farmers, who had a larger number of hogs than usual, and they were rushed into the market at ruinous prices.

The very light and inferior crop of oats and corn fodder and the fact that the hay crop though of prime quality was put up so dry that its weight is not in keeping with its bulk, combined with the high price of mill feed, will be potent factors in keeping up the demand and price of corn.

Potatoes are scarce and prices advancing. Large crops of turnips are relieving the want and preventing any considerable advance in the price of potatoes at this time.

MICHIGAN.

The corn crop of 1889, like the two preceding years, was a light one, but the crop of this year is lighter than that of 1889. The average price (December 1, 1890) is much larger, owing to the great falling off in the crop of the country.

The potato crop of the northern counties has contributed in great measure to somewhat increase the comparative average of the State, while the unusually favorable fall has increased the yield of the late varieties in the southern and central counties. The very satisfactory price paid in a measure compensates for the diminished yield. A correspondent from Grand Traverse County writes: "The greatest income our farmers have had is from potatoes, and as a result they are getting out of debt and general good feeling prevails." The hay crop is a good one and is bringing a fair price.

INDIANA.

The remarkably warm and moist weather up to December 1 has kept the pastures in fine condition, grazing has remained excellent, and much grain, hay, etc., have been saved thereby, as live stock have been kept in fine condition with little feeding. The corn crop matured well, and has been harvested and cribbed in excellent condition. The hay crop has proved the most profitable of the staple productions of the year.

ILLINOIS.

The weather during the entire month of November was favorable for farm work. The corn crop, while below an average in yield per acre in most parts of the State, is of good quality generally, and that not in shocks is cribbed in fine condition.

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WISCONSIN.

The weather during November was excellent for all farm work. Grass did well during the whole of Nove nber, and fall pasturing has been the best for years. A noticeable feature of reports received is the general good feeling over existing prices and conditions. Several correspondents, who last spring wrote lengthy letters full of dismal forebodings as to the outlook for the agricultural classes, in their last reports take a rosy view of prospects, and feel that their condition is materially improved.

IOWA.

The fall weather has been remarkably fine and favorable for farm work. Corn is nearly all husked and cribbed in good condition.

MISSOURI.

Corn did not turn out as well as was anticipated before harvesting began. In southern Missouri the crop has been seriously damaged by worms and excessive rains, the latter causing the corn to rot while yet on the stalk. Early potatoes were very light in yield, but the limited area planted after rains came gave a fair crop.

KANSAS.

The unusually mild weather during the fall, and particularly during the month of November, has been very favorable to the growth of late forage plants and pastures. This, owing to the short corn crop, has been of great value to farmers, enabling them to withhold their stock from the markets.

CALIFORNIA.

The corn crop is good—above the average. The hay crop was also a good one, but prices are low. The hop crop has been good in quantity and especially good in quality, and the product is bringing good prices. The fruit crop, though not generally so large on account of the wet weather, was perhaps the most profitable ever harvested, on account of the prices realized in eastern markets. Large additional plantations will be made the coming winter.

The grape crop has also been unusually good in quality and quantity wherever the vineyards were healthy. The raisins and dried grapes were damaged in some sections by early rains, but not to any serious extent. As near as can be ascertained the wine crop of the State will be about 15,000,000 gallons, of more than average quality, and as old stocks were mostly cleaned out before the vintage, the demands of the trade are constantly increasing, and we may hope for a revival of the industry in the next few years. Prices of grapes for wine making have advanced fully one-third, and a hopeful feeling prevails. However, the ravages of the phylloxera and of the southern vine disease have been very serious, and the area of productive vineyards will be very much decreased. The planting of American resistant vines offers the only effectutual remedy.

SOUTH DAKOTA.

Prices of grains are better than for the past two years. The price of wheat at local elevators has fluctuated considerably. Beginning at 90 cents per bushel for No. 1 northern, immediately after harvest, it fell to 68 cents in the early part of November and advanced to 79 cents December 1. Coarse grains are high, owing to the short yield. The supply for feeding purposes is not equal to the demand.

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Average farm price of agricultural products, December 1, 1890.

States and Territories.	Corn per bushel.	Wheat per bushel.	Rye per bushel.	Oats per bushel.	Barley per bushel.	Buckwheat per bushel.	Potatoes (Solanum tuberosum).	Potatoes (Batatus edulis, sweet), per bushel.	Leaf tobacco per pound.	Hay per ton.	Cotton per pound.	Sorghum molasses per gallon.
	Cts.		*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*		*Cts.*		*Cts.*	*Cts.*
Maine	74	$1.15	85	57	76	55	71	.....	.....	$9.25	.....	.....
New Hampshire	72	1.15	84	56	81	62	72	.....	.....	9.75	.....	.....
Vermont	72	1.11	80	50	70	55	63	.....	.....	8.70	....	.....
Massachusetts	70	1.15	81	55	77	65	84	.....	15	13.50	.....	.....
Rhode Island	72	.....	81	54	76	.....	85	.....	.....	14.00	.....	....
Connecticut	70	1.10	80	53	70	60	85	.....	16	13.50	.....	.....
New York	65	1.00	73	50	78	58	78	.....	13	7.75	.....	.....
New Jersey	62	1.00	75	50	.....	60	82	$0.70	.....	10.30	.....	.....
Pennsylvania	60	.99	70	48	70	55	77	.85	13.5	7.50	.....	48
Delaware	50	.96	70	45	.....	58	75	.65	.....	10.00	.....	40
Maryland	50	.92	70	44	.....	59	71	.60	6.5	9.84	.....	35
Virginia	55	.96	67	45	.....	65	67	.58	8	10.70	8.7	44
North Carolina	55	1.00	81	51	.....	63	65	.40	11	11.01	8.7	36
South Carolina	70	1.05	85	60	.....	.....	90	.48	.....	13.00	8.7	43
Georgia	69	1.10	90	60	.....	.....	95	.43	.....	14.25	8.6	40
Florida	75	.....	.....	61	.....	.....	97	.49	.....	15.50	8.6	50
Alabama	68	1.09	90	62	.....	.....	93	.49	.....	13.50	8.6	38
Mississippi	70	1.10	.....	60	.....	.....	98	.49	.....	11.40	8.8	35
Louisiana	70	.....	.....	61	.....	.....	92	.50	.....	10.20	8.8	32
Texas	72	.95	80	55	.....	.....	90	.68	.....	9.50	8.4	45
Arkansas	65	.98	.....	53	.....	.....	88	.45	10	10.30	8.5	41
Tennessee	52	.97	75	45	.....	.....	85	.46	6.3	10.00	8.4	30
West Virginia	60	.95	69	45	.....	68	82	.60	.....	8.50	.....	45
Kentucky	49	.92	70	45	.....	67	84	.68	6.5	9.00	.....	40
Ohio	51	.91	63	42	70	65	85	.80	7.5	7.50	.....	45
Michigan	55	.90	60	44	63	55	64	.....	.....	8.00	.....	50
Indiana	47	.88	60	41	65	65	92	1.02	7 5	8.00	.....	45
Illinois	43	.87	59	41	60	62	95	1.00	7.6	7.60	.....	44
Wisconsin	45	.83	56	40	58	53	63	.....	9.5	6.65	.....	45
Minnesota	42	.81	53	37	55	52	60	.....	.....	5.00	.....	49
Iowa	41	.80	50	38	52	63	70	.....	.....	6.75	.....	46
Missouri	44	.83	58	39	57	65	80	.75	7.8	7.20	8.6	37
Kansas	51	.77	55	38	57	75	98	1.00	.....	5.18	.....	42
Nebraska	48	.76	52	39	57	70	99	.....	.....	5.00	.....	50
California	65	.76	70	56	75	73	68	.70	.....	10.50	.....	.....
Oregon	66	.75	68	50	70	70	55	.....	.....	10.00	.....	.....
Nevada	.....	.86	.....	55	75	.....	70	.....	.....	9.75	.....	.....
Colorado	63	.81	65	56	76	.....	75	.....	.....	9.00	.....	.....
Arizona	70	.90	.....	58	80	.....	.....	.....	.....	7.50	.....	.....
The Dakotas	50	.70	47	32	52	.....	68	.....	.....	4.50	.....	.....
Idaho	.....	.78	.....	58	75	.....	.....	.....	.....	11.00	.....	.....
Montana	70	.80	.....	59	74	.....	80	.....	.....	10.50	.....	.....
New Mexico	73	.95	.....	57	.....	.....	95	.....	.....	9.00	.....	.....
Utah	68	.78	63	55	75	72	75	.....	.....	8.00	.....	.....
Washington	50	.76	68	47	68	68	60	.....	.....	12.00	.....	.....
Wyoming	65	.82	.....	56	.....	.....	80	.....	.....	.....	.....	.....
General average	50.6	83.8	62.9	42.4	64.8	57.7	77.7	.....	7.7	7.74	8.6	.....

NEW YORK DAIRYMEN'S ASSOCIATION MEETING.

The annual meeting of the New York Dairymen's Association was held at Walton, Delaware County, N. Y., December 9 to 11. Dairy products were exhibited and premiums awarded. Dairy implements and appliances were also on exhibition. It was the fourteenth annual convention, and was attended by large and appreciative audiences. The following topics were presented by the persons indicated:

Maj. Henry E. Alvord, director Maryland Agricultural Experiment Station. Dairy education.

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Hon. T. S. Gold, secretary Connecticut Board of Agriculture. Cattle foods and feeding.

Prof. L. L. Van Slyke, chemist, New York Agricultural Experiment Station. An experimental study of the chemistry of dairy products.

Mr. David W. Lewis, New York. The market requirements for dairy products.

Prof. I. P. Roberts, director Cornell Agricultural Experiment Station. Transmission of power.

Governor W. D. Hoard, of Wisconsin. Breeding, handling, and feeding the dairy.

Hon. J. R. Dodge, statistician, Washington, D. C. Foreign markets for dairy products.

Col. F. D. Curtis, dairy instructor. Mistakes in butter-making and the remedies.

Mr. B. D. Gilbert, secretary Utica Board of Trade. Realization, or turning dairy products into cash.

Mr. Josiah D. Smith, Delhi, N. Y., The farm home.

Mr. A. D. Baker, Aurelius, N. Y., Dairying on a grain farm.

Mr. John Gould, Aurora, Ohio. Success in dairying.

The address of the statistician, announced above on the programme of the convention, was as follows:

FOREIGN MARKETS FOR DAIRY PRODUCTS.

It is natural, in an era of low prices, that enlargement of demand should be sought in the hope of amelioration of values. Competition in production leads to excess or surplus, which tends to reduction of price. Consumption can be stimulated to strengthen demand, both in domestic and in foreign trade. The former is the wider field, because occupied exclusively; the latter is a supplementary resource of great importance. We possess the markets of this country, and propose to keep them; we may share, while we can not monopolize, foreign markets, at least so far as to supply deficiencies in foreign production. At your request I will assume the task of indicating the extent of foreign wants, and the means by which a larger demand for dairy products may be enjoyed.

In seeking a wider movement of these products towards the markets of the world, I would not for a moment encourage the delusion that the exportation of the crude and bulky products of agriculture can be indefinitely extended, or made profitable, in foreign trade. That idea is held and promulgated either in ignorance or for a partisan purpose. The hay and forage from nearly 200,000,000 acres, representing great values, we could not export if we would, and should not if we could. Vegetables in their crude form are ineligible for exportation.

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When corn is worth but $8 per ton it is folly to pay for transportation four or five thousand miles in preference to shipping it in beef worth $180 per ton, in cheese at $200, or butter at $250. Our agricultural exports are practically confined to cotton and tobacco, to meat, breadstuffs, and dairy products. The cotton is worth as much as cheese, or $200 per ton; tobacco averages $180 per ton. Wheat, with a value in the garner ot only $30 per ton, is not worth shipping to meet the competition of the rudest and lowest agriculture of the world, and its exportation will gradually decline. It is only sustained now by the exigencies of a primitive and slovenly system of agriculture.

It is not merely the cost of transportation, which railway development has cheapened extraordinarily, that should bar this foreign movement of primitive products, but the reckless waste of plant food, tending to rapid sterilization of the soil and consequent reduction of its rate of yield. We are learning slowly the avoidance of this waste; in cotton, by making oil of the seed and feeding the oil-cake, exporting only the fiber, which contains little that is exhausting to fertility; in wheat, by milling, and retaining the bran and shorts for the use of dairymen and other feeders; in corn, by transformation into pork and returning to the soil a large proportion of its elements; in milk, by sending only cream to butter factories, and retaining nearly all that proves exhaustive. We can not afford to export or waste otherwise the fertility garnered in a thousand years of growth and decay of vegetation. It is the capital of the farm, that should be held as a sacred heritage for the use of future generations, and not squandered prodigally, but increased by every means offered by scientific agriculture, both for prospective personal profit and the prosperity of our descendants. Such recklessness is the suicide of thrift and the annihilation of the birthright of posterity.

The lessons to be learned, therefore, relating to the extension of foreign trade, are two, viz: that the expense of transportation should be minimized by the selection of products of high value in proportion to weight, and the loss of fertility should be avoided by exportation of carbon rather than nitrogen and phosphoric acid. This course not only conserves fertility, but simplifies the transportation problem.

OUR FOREIGN TRADE IN DAIRY PRODUCTS.

This trade is older than the general government, and can be traced almost to the infancy of the colonial government.

Seventy years ago the annual exportation of butter exceeded a million pounds, and surpassed materially the foreign shipments of cheese. This superiority continued for more than twenty years, or until 1842, when cheese took the lead and ever after retained it, increasing the distance, through all the fluctuations of peace and war, booms and depressions, for the next twenty years holding the ratio at two or three to one and for the past twenty years at five or six to one. The war

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period increased the export of butter, which had for ten years averaged less than 4,000,000 pounds, to 26,000,000, and for the next ten years, following 1865, the average annual trade only exceeded very slightly 4,000,000 pounds. In 1877 the butter exports jumped to 22,000,000, a more than threefold increase, fluctuating since between 10,000,000 and 40,000,000, the largest annual volume in 1880 and the smallest in 1888. Cheese has been more regular in its movement, increasing by fluctuating advances in volume until 1881 and declining irregularly since that date, reaching 100,000,000 pounds only three times in nine years and falling below that figure every year in the last five.

It is well known to all dairymen, and to all familiar with the progress of rural production, that the product and export of cheese received an extraordinary stimulus from the rise and development of the cheese-factory system.

This is seen at a glance in the chart that illustrates the statistics of our foreign dairy trade of the past seventy years, which presents the average exports by decades.

Years.	Butter.	Cheese.
	Pounds.	*Pounds.*
1821–'30	11, 596, 858	7, 914, 198
1831–'40	9, 086, 536	8, 247, 795
1841–'50	33, 763, 410	90, 610, 348
1851–'60	36, 338, 779	78, 533, 783
1861–'70	133, 985, 053	446, 512, 816
1871–'80	152, 452, 885	999, 924, 409
1881–'90	188, 207, 800	1, 041, 585, 996

While the past decade scores an increase in butter and a very slight advance in cheese, the past five years averages per annum only about 17,000,000 pounds of butter against 20,000,000 in the five years preceding, and 88,000,000 pounds of cheese instead of 120,000,000 pounds in the previous quinquennial period. This is a heavy decline in cheese; not merely a halt in the upward movement of the latter, but a fall of more than one-fourth of the volume.

At this turning point in the dairy-goods movement, this arrest of a somewhat remarkable flow of a surplus of rural production, it may be well to note the fluctuations in quantities and the changes in values of the past ten years as exhibited in the following statement:

Years.	Butter.			Cheese.		
	Pounds.	Dollars.	Cents.	Pounds.	Dollars.	Cents.
			Per lb.			*Per lb.*
1881	31, 560, 500	6, 256, 024	19. 8	147, 995, 614	16, 380, 248	11. 1
1882	14, 794, 305	2, 864, 570	19. 4	127, 989, 782	14, 058, 975	11. 0
1883	12, 348, 641	2, 290, 665	18. 5	99, 220, 467	11, 134, 526	11. 2
1884	20, 627, 374	3, 750, 771	18. 2	112, 869, 575	11, 663, 713	10. 3
1885	21, 683, 145	3, 643, 640	16. 8	111, 992, 990	10, 444, 409	9. 3
1886	18, 953, 990	2, 958, 457	15. 6	91, 877, 235	7, 662, 145	8. 3
1887	12, 531, 171	1, 983, 698	15. 8	81, 255, 994	7, 594, 633	9. 3
1888	10, 455, 651	1, 884, 908	18. 0	88, 608, 458	8, 736, 304	9. 9
1889	15, 504, 978	2, 568, 765	16. 5	84, 999, 828	7, 889, 671	9. 4
1890	29, 748, 042	4, 187, 489	14. 1	95, 376, 053	8, 591, 042	9. 0

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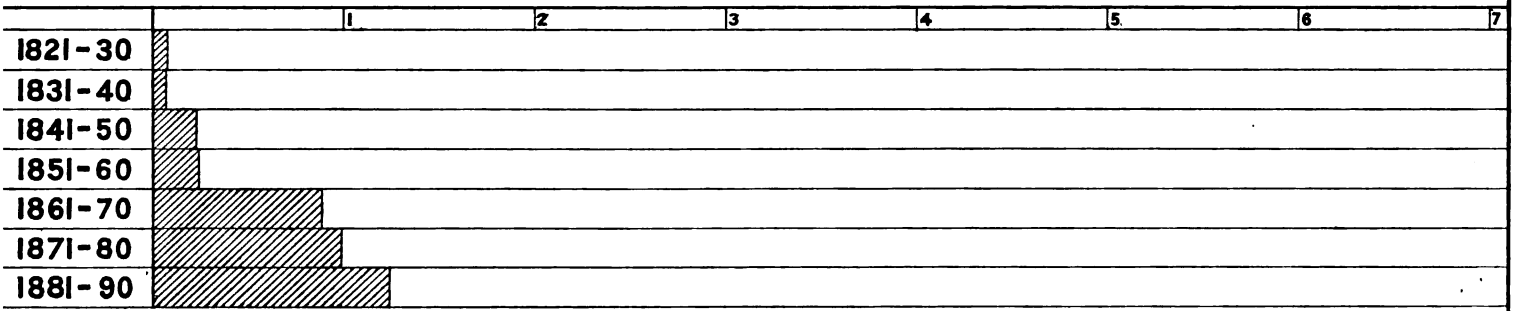
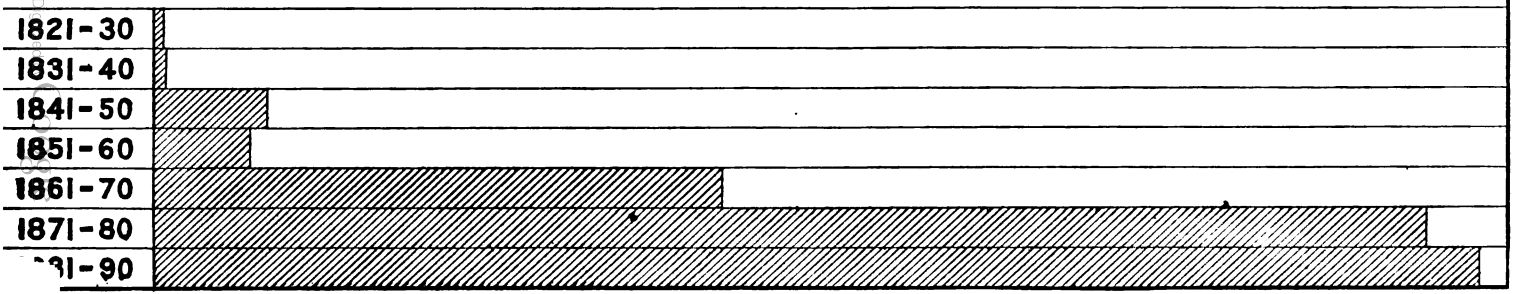
EXPORTS OF DAIRY PRODUCTS.

SCALE: ONE-FIFTH INCH = 3,000,000 LBS.

BUTTER.



CHEESE.



This statement begins with a butter exportation of nearly 32,000,000 pounds in 1881, followed by one of nearly 15,000,000, and another of 12,000,000; then come three comparatively equal annual shipments of not far from 20,000,000, the next years dropping respectively to 12,0000,000 and 10,000,000, while the last year, 1890, rises abruptly to nearly 30,000,000, almost the point at which the trade stood at the commencement of the decade. There is an anomaly in this fluctuation, in that the largest exports were made when the average price was highest, in 1881, and the smallest in 1888, when the average was also high, the highest in fact of the last six years. The highest averages of the first three years, however, were at least in part the result of the partial crop failures of western Europe, and in 1881 of the scarcity in this country, the year of severe drought.

The year 1881 marked the culmination of the advance in exports of cheese, when 147,995,614 pounds constituted the annual shipment at an average of 11.1 cents per pound, the value being $16,380,248. In the following year, and also in 1884 and 1885, the annual trade exceeded 100,000,000 pounds. The causes tending to sustain the price of butter in the first three years of the decade also affected cheese values, and kept the price quite uniform, on the upper side of 11 cents. The annual averages have since ranged from 9 to 10 cents, except in 1886, when it was only 8.3 cents, a lower figure than in any year since 1862, when the average was 8 cents.

THE COURSE OF PRICES.

In the discussion of prices it is important to consider the influence of a depreciated currency during the war period and in the following years. The decade between 1860 and 1870 was one of abnormal prices, and the following period of ten years was also somewhat affected by a depreciation less marked. As to the last decade, as I have shown, the higher prices of the first part of it were undeniably due to partial failures of crops, due to adverse meteorological conditions, first in Europe and next in this country. These facts afford a sufficient explanation for a large portion of the decline in values. Most of the remaining or uneliminated differences in price of butter are due to the competition of imitation butters and oleomargarine oil, and in the price of cheese to the spurious and sophisticated forms, which are compounds of curds destitute of most of their butter fats and fortified by various animal fats. These disreputable creations are crowded upon the foreign markets, and though they may not command full prices of standard American factory cheese, they serve to create a false impression of the average quality of our shipments, to create suspicion and prejudice in the minds of foreign consumers, and to demoralize the markets.

Early in the year a communication was received by the Secretary of Agriculture, from the secretary of the Liverpool Provision Trade Association, through the Liverpool consul of the United States, Thomas H.

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Sherman, esq., calling attention to the exportation from the United States of "filled cheese," stating that the article is a compound of "skim milk and grease, such as old butter, oleomargarine, or lard, the main ingredient being at present stale butter, on account of the belief of the manufacturers that they can thus defy the analyst." The protest states that for five years the price of cheese, instead of advancing in the spring months, has declined from this cause; that "this product is neither wholesome nor palatable, but is injurious to the American cheese trade, as it curtails consumption of the pure article, disgusting the community with American cheese as an article of food." The prohibition of the manufacture of filled cheese is suggested in the Western States, as has been done already in the State of New York. Such prohibition can not be more important to the Liverpool association than to the honest cheese makers of the United States.

The reduction in price can not be due, in any considerable degree, to any general tendency to lower values, of which so much is said of late, for whatever the fluctuations in European prices, they are mainly accounted for by natural causes affecting production and supply. Indeed, the average price of British importations of butter, for three years past, have not been exceeded, and have been equaled only in 1881, during the decade. In cheese, of which a large proportion of British imports are from this country, the reduction is certainly due in part to the injurious effect of low grade goods upon the general average.

The average annual value, and annual value per pound of butter and cheese, for each of three periods which represent the exports of thirty years, are:

Period.	Butter.			Cheese.		
	Pounds	Dollars.	Cents.	Pounds.	Dollars.	Cents.
1861–'70	13,398,053	3,079,810	23.0	44,651,282	6,385,067	14.3
1871–'80	15,245,288	2,748,203	18.0	99,992,441	11,658,844	12.7
1881–'90	18,820,780	3,238,899	17.2	104,158,600	10,415,567	10.0

We find in these facts, properly viewed and weighed, no bar to continued participation in foreign markets, no insurmountable obstacle to a profitable disposal of surplus supply, no necessary discouragement of producers of dairy goods. We may be forced to remedy existing abuses in manufacture, to consider more closely the requirements of foreign demand, and to study more accurately the science and practical economies of production. These points successfully gained, there appears to be no reason why dairying should not be as profitable in the future as in the past.

The fact that the annual cost of British imports of butter in 1889, including that received from this country, averaged 23 cents, while our exports of the last year averaged only 14.1 at the ports of shipment,

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tells a story of low grade, poor quality, rancidity, and depreciation of pecuniary returns that is discreditable to the enterprise of American dairymen and injurious to the reputation of our dairy products to a degree that is not deserved, because these exports do not represent the average quality of the goods used in our home consumption. I am paying regularly, for family use, 40 cents per pound for butter, nearly three times as much as the export price and 70 per cent. more than the import price of butter received in Great Britain.

Our butter-makers will answer this indictment by saying that our exports are a mere bagatelle, a riddance of a few goods of off flavor, scarcely a safety valve for glutted markets, and that they do not really seek a foreign market for butter. All this is in a sense true, and should be understood by foreigners who depreciate the quality of average American butter. But why should it be true? As the product increases and prices decline, why should not a relief to the market be sought in extensive shipments of medium and better qualities? Why should not a competition with the best butter of Denmark, of Normandy, of Norway, place our gilt-edged products in the markets of Liverpool and London? In this era of rapid transit on land and water, and of refrigerator ships and cars, it would seem to be possible to inaugurate an exportation of butter which should be creditable to our reputation for butter making and for commercial enterprise, and take the place of the farce which now assumes the name of the foreign trade in American butter. This possibility will be further considered under another head.

THE DECLINE AND THE REMEDY.

The question naturally arises, What is the cause of this decline of the foreign demand for dairy products? It is a vital inquiry. A prominent reason for decrease of the butter trade is the large and increasing exportation of imitation butter and oleomargarine oil. An annual average of nearly 40,000,000 pounds of the oil and a million or two of the sophisticated butter was exported for six years, from 1884 to 1889, inclusive, and last year the aggregate jumped to 70,000,000 pounds, or more than all the exports of butter for the last four years. Our exports have degenerated into wholesale shipments of "bull butter." It is the butter of the abattoir that goes abroad. The story of the trade is a tale of tallow. It is no longer a product of the udder, or even a melting of suet, but a rendering of all available animal fats, which takes the place of butter. It sells for three-fourths of the price of the kinds of butter exported, in quantities from two to four times as great. Its manufacturers claim that it is quite as palatable and wholesome as the article it displaces. There is plausible ground for the contention, at least as to a portion of the butter product sent abroad.

The obvious lesson from the facts as they exist to the dairy world is the necessity of improvement in quality, a deference to the preferences of foreign consumers, and protection against deterioration in transit.

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If a foreign market for fine butter is desired it must be preserved fresh by refrigeration and not by salt. The English market requires an article almost destitute of salt. A failure to consult the tastes, even the whims, of consumers as to quality and form of package will defeat the introduction of fine American butter. It is probable that one obstacle to exportation of superior qualities has been the relatively small proportion made. While customers can be found at home for fancy makes at 40 to 75 cents per pound, it may be useless to attempt to export this grade. This constitutes, however, so small a portion of the whole that it really offers no bar to the possibility of exportation. The average price of American butter is below the average of British butter importations, and if it is not exported adequately it must be because of poor quality, undesirable make and packing, or lack of commercial enterprise in overcoming the difficulties of ocean transportation, one or all of these three obstacles to foreign trade. A considerable portion of the product is doubtless equal to the better grades of any other country, but the larger part, as in every other country, is much inferior to the higher grades.

There is room for improvement by the great majority of our buttermakers, and all the greater need of it now because of the active interest in dairy education in all parts of the world, perhaps nowhere more manifest than in Great Britain at the present time. The United States should take the lead in the application of science to industrial art, in technical skill to secure the highest practical results in appliances for economizing labor, for the maintenance of the high standard of living which now distinguishes our people. The New York Dairymen's Association deserves recognition and congratulation for its unremitting and efficient efforts in this branch of industrial education. It has already accomplished much for the improvement of dairy methods and results, and promises still more in this line of public benefaction.

While the exportation of butter is insignificant compared with production, scarcely 1 pound in 50, the foreign trade in cheese takes about 1 pound in 4, and one year nearly one-half was exported. Instead of the lower grades, as in butter, the trade requires the best, and the demand is reduced by an attempt to force the poorer qualities on the market. It is a trade worth preserving. For ten years past it has averaged more than $10,000,000 per annum, representing a volume of more than 100,000,000 pounds yearly—more each year than the exports of any decade previous to 1860. It is too valuable a trade to throw away or neglect. It represents too much honest industry to be wantonly sacrificed by the greed of unscrupulous manufacturers of counterfeit and sophisticated products. The strong arm of the law should protect this industry against the wiles of pretense and fraud. Not that the manufacture of inferior goods or substitutes should be forbidden, when such products are sold without pretense or falsification, but the concealment, the mystification, counterfeiting, and dishonest

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substitution which displaces a standard article by a cheaper, or a healthful material for one of doubtful purity, and steals the livery of honest nomenclature in which to serve the devil of greed, should be punished with as much severity as any other crime against the rights of property. An unwholesome food product no one has the right to place upon the market. A cheap material, if pure and healthful, may be sold as freely as the best, if offered without pretense or misrepresentation. The fight of the dairyman is not against substitutes, but against dishonesty and falsehood.

The cheese makers of New York must stand firmly for high character of their product. It is not enough to avoid deterioration, there should be constant and wise effort for improvement. A November quotation of London prices of American cheese makes medium grades an equivalent of 9.12 cents per pound and the best qualities 11.29 cents. The first prizes at the Frome exhibit in Scotland were all taken by students of the dairy schools, over the products of the West of England, the very home of the Cheddar manufacture, and the Bath and West of England Society has been called upon to establish a dairy school in the hope of regaining lost prestige. May not the efforts of this association, of farmers' institutes, of dairy schools be found profitable for the elevation of American cheese manufactures?

A GLANCE AT FOREIGN DEMAND.

All Europe uses less than twice as much butter as the United States, with more than five times as much population. Our consumption may be estimated conservatively at 16 pounds, while that of Europe is not thought to be more than one third as much. Very little is used in Italy, olive oil taking its place, and Russia requires only 2 or 3 pounds per head. France requires scarcely the European average, while the consumption of Belgium and Holland is slightly above the average, that of Germany still more, and Scandinavia and Great Britain approach without reaching our own rate of consumption.

Very few of the European countries fail to produce a supply for domestic consumption. Great Britain takes nine-tenths of the imports of Europe, requiring about 232,000,000 pounds net per annum, and a small deficiency exists in Belgium, Norway, and Portugal. The net exports of Holland exceed 90,000,000 pounds, and France has a surplus of 60,000,000 pounds and Denmark, Russia, Austria, Germany, Sweden, and even Italy, are able to export butter. In ten years, 1877 to 1886, the exports of all these countries exceeded the imports by 22,000,000 pounds. These facts illustrate the competition we encounter from Europe itself.

The European demand for cheese is better. Holland made an average annual export of nearly 62,000,000 pounds, and Switzerland of 52,000,000 pounds, in the ten years indicated, all other countries having greater imports than exports. The net imports of Great Britain were

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about 195,000,000 pounds, France 25,000,000, and Italy 19,000,000 pounds, other countries requiring only trifling quantities. The imports from countries outside of Europe averaged 140,000,000 pounds, coming from the United States and Canada. The deficiency of all Europe is much less than the deficiency of Great Britain; that is, the continent is able to supply itself with cheese, and contribute materially to supplement the wants of the United Kingdom.

A tabulation of the cheese imports of Great Britain for ten years, from 1880 to 1889, inclusive, makes an average importation for the period of 204,589,210 pounds, while that of last year was 213,695,888 pounds. A small portion of these imports are exported to other countries, reducing the present net requirements of Great Britain to about 200,000,000 pounds in round numbers.

The British imports of butter last year were 216,918,304 pounds, of which 35 per cent. came from Denmark, 29 per cent. from France, and 11 per cent. from Sweden. Holland, Germany, the United States, Belgium, and other countries contributed 25 per cent. in the order named. This country sent less than 6 per cent. The average prices of the principal supplies were as follows: Denmark, 24 cents; France, 23.6; Sweden, 23.4; Holland, 22.1; Germany, 23; Belgium, 22.5; Norway, 24.3; Australasia, 20.1; Canada, 18.2; the United States, 17.7; British East Indies, 12.2. It is gratifying to know that one country at least gets a lower rate than this country.

Imports of butter and cheese into Great Britain.

Years.	Butter.			Cheese.		
	Pounds.	Dollars.	Cents per pound.	Pounds.	Dollars.	Cents per pound.
1880	260, 516, 160	59, 084, 342	22.6	198, 911, 664	24, 777, 853	12.4
1881	229, 302, 192	52, 880, 124	23.0	206 000, 080	25, 525, 352	12.3
1882	243, 008, 304	55, 239, 190	22.7	189, 797, 776	23, 115, 242	12.1
1883	261. 460, 976	57, 297, 845	21.9	201, 566, 848	23, 799, 132	11.8
1884	277, 248, 832	61, 042, 724	22.0	215, 839, 568	24, 340, 457	11.2
1885	268 953, 776	56, 273, 812	20.9	205, 389, 184	19, 803, 463	9.6
1886	172, 579, 392	39, 620, 308	22.9	194, 307, 680	18, 839, 969	9.6
1887	169. 471, 008	38, 982, 485	23.0	205, 720, 368	21, 969, 240	10.6
1888	187, 200. 496	43, 375, 333	23.1	214, 772, 992	22, 125, 095	10.3
1889	215, 918, 304	49, 855, 521	23.0	213, 695, 888	21, 855, 306	10.2

As the European field for marketing dairy our products is confined almost entirely to Great Britain, and must mainly continue to be so in the future, it would be wise to seek other markets. The most accessible and promising for present cultivation are the Central and South American States, those at least that live in the tropics, where dairying does not flourish or give promise of future development. Good butter commands there a high price, when it can be obtained at all. Oleomargarine is already there in force, wherever shipping facilities are available. Frequent and direct steam communication with these Spanish-American neighbors, the means employed by the great nationalities of Europe

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to extend trade, would immediately and largely benefit the dairy interests of the United States. Foreign governments foster and protect and extend their trade through the establishment and sustention of steamship lines to every portion of the globe. Great Britain secures a large share of the South American trade, notwithstanding the heavy duties which she levies on the coffee, cocoa, and other products, because of the steamship lines which this sustains, while this country admits something like a hundred million dollars' worth of these products entirely free of all duty, largely by way of England, because of our reprehensible failure to provide the means of rapid and prompt exchange of products, many of which, like dairy products, are injured by long and circuitous sea voyages. A considerable increase of our foreign dairy trade would immediately follow establishment of steam communication with South American ports.

IN CONCLUSION.

Our foreign trade in butter, older than the national Government, and far greater in the two latest decades than in two preceding centuries, is still an unimportant remnant of our product of the poorest grades and lowest prices.

The exportation of cheese represents a fourth and sometimes a third or more of the entire manufacture. Shipments have relatively declined and average prices have fallen because of the exportation of a proportion of inferior grades, skims, adulterations with oleomargarine and "filled cheese," the products of greedy and unscrupulous manufacturers. Thus the products of our great cheese factories, of full sustained and high character, are injured by the greed of a few unscrupulous makers.

The exportation may be extended by a strict separation and isolation of the substitute trade, the avoidance of deterioration in quality, and a constant effort to increase the proportion of superior grades. New markets may be found of considerable present value and rapidly increasing importance, under a national policy, which shall encourage and sustain steam navigation to the principal cities of Spanish-American countries.

The consumption of American cheese, at home and abroad, may be increased by skill and facility in producing new forms and qualities, keeping abreast of the progress of the age in meeting the tastes and preferences of the age for fancy styles and varieties. Improvement in all dairy products is feasible and is necessary to the largest consumption in both the domestic and foreign trade. The dairy associations, dairy schools, and farmers' institutes have here a work of high importance, worthy of the attention of legislatures and agricultural experiment stations, and promising larger production, better quality, higher prices, and a better profit.

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The Secretary of Agriculture is fully impressed with the importance of the subject, and contemplates the early establishment of a fully equipped dairy division in the Department of Agriculture.

FINANCIAL CONDITION OF CALIFORNIA FARMERS.

In the October report the assistant statistician, in speaking of his general observations during a hasty trip to the Pacific coast, intimated that while the year was one of remarkable prosperity for those engaged in fruit raising, vine growing and kindred branches of rural industry in California, the grain growers of the State would make but little financial progress as the result of the season's operations. It was stated that barley, on account of the limited yield and exceptionally high price, would make a paying crop, but that the indications did not favor the realization of any substantial profits this year from the wheat fields of the State. In spite of the deficiency of the local product, and the contraction in the world's supply, prices failed to materially advance.

In line with the idea expressed in the report referred to and perhaps suggested by it, the Board of Bank Commissioners of California undertook an investigation into the financial condition of the farmers of the State, and especially as to whether the result of the last season had assisted them in freeing themselves from debt. The inquiry was made through county banks and local financial institutions doing business directly with the farmer, the authority best able to speak accurately and from the facts. The managers of these institutions which advance the farmer money on his crop, furnish the means for handling it, and hold a large proportion of the farm mortgages recorded in each county, feel closely the rural financial pulse, and their statements, backed by their business operations, are valuable indications of the general financial position of the agriculture of the coast.

The circular from the board of bank commissioners asked in a general way, whether the farmers of the county in which the recipient was located were getting out of debt. The responses which have been submitted to the Department, through the courtesy of Mr. T. C. Friedlander, secretary of the San Francisco Produce Exchange, almost without exception, are in the main gratifying, indicating a decrease of indebtedness, especially during the past year, in almost all lines of rural industry. Fruit and vine growers have been especially prosperous, canceling rapidly obligations heretofore assumed for the purchase and development of orchards and vineyards, and investing still more extensively in their plants. Quite as marked as the prosperity of these branches of industry is the lack of improvement in the condition of grain growers. For several years the margin of profit in wheat growing has been very small in all parts of the State, while in many districts it is believed that it has been grown at a positive loss. In this investigation the searching and merciless test of the banker's ledger only confirms what this

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office has long believed and frequently said. Wheat growing at the prices of recent years, for anything except home consumption, is not a paying occupation for the American farmer. The market of the world is too limited, too easily glutted, and too eagerly sought after by the rude and primitive agriculture of other wheat-growing countries, whose laborers are satisfied with a scale of living far beneath that enjoyed by our rural workmen.

Selections are made from the county returns, giving a fair indication of their general cheerful nature, and showing the disadvantages under which grain farmers labor.

Ventura.—Farmers in this vicinity have, as a class, been rapidly diminishing their debts in the last year. Owing to good prices realized for all of their products, and to the abundant harvests that have been gathered, the majority of our farmers are out of debt.

San Joaquin.—Leading men do not think that farm mortgages have been reduced to any extent during the past three years; but rather that they have increased on account of two or three seasons of short crops and low prices. Farmers depend largely upon wheat raising, hence this result. One good crop, with good prices, would help materially.

Los Angeles.—Farmers in this county have made little progress this season toward relieving themselves of debt. Circumstances have been unusually favorable for fruit raisers.

Tulare.—It is believed that farmers will reduce their indebtedness about one-third during the present season.

Sacramento.—Do not think the wheat growers as a class are reducing their debts. Fruit growers are either diminishing them or making new investments in land or trees. Judging from collections, wheat growers pay slower than fruit growers.

The tenor of other reports is very similar, and out of the whole San Joaquin alone reports no progress towards settlement. This county, located at the head of the great wheat-growing valley of the same name, is a striking example of the folly of growing grain which can only be sold abroad after long transportation and in keen competition with the product of every wheat-raising country.

Mr. A. Montpelier, manager of the Granger's Bank of California, writes as follows upon this subject:

Taking the State as a whole we believe that wheat-growing within the past four years has barely paid for itself. In some of the most favored sections there has probably been a small margin of profit, but in others wheat growing has been attended by loss through short crops and low prices. The same remarks apply to barley, though somewhat relieved by high prices this season after three years of poor returns. On the other hand, fruit-growers and vineyardists are receiving higher prices than heretofore, and for some fruits unexpected returns are being realized. There is every prospect of profitable returns being received from bearing orchards and vineyards in the future, even after allowing a liberal margin of depreciation in prices from present values. Consequently it is reasonable to look for a reduction of the sums invested in these industries (in mortgages on such property.—Ed.) as the lands get into bearing, but this may be counterbalanced by the requirements for the constantly increasing acreage being planted.

California has all the conditions for an agriculture peculiar to itself. All products of the temperate zone flourish, and many of those of tropic

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habitat are at home under its summer sky. There is a possible range and wealth of agricultural production that is hardly equaled by any land. Its possibilities are yet scarcely known. Settled originally by a class of farmers accustomed to the agricultural methods and products of other and less-favored regions, it is not strange that their first efforts should have been directed to the development of an agriculture in harmony with their previous experience. Aside from a lack of knowledge of the possibilities of a new country, the demands of physical existence required an immediate production of the staple food crops, and the habits of cultivation thus established were long adhered to with proverbial agricultural conservatism. The first interest of the early settlers was a home supply of the necessaries of life, with little inclination and less opportunity for the production of the luxuries and delicacies for which the State is becoming famous. The first experiments in the production of any except staple products were devoted to the vineyard. In fact the old Spanish settlements gave to the American colonists an intimation of what might be accomplished with the vine by their cultivation of the Mission grape, a variety which to this day still to some extent holds its own in favor.

During the past few years the development of the special lines of rural industry for which the State is especially adapted has taken place rapidly. Her citrus fruits, with those of Florida, which they so admirably supplement in time of marketing, are beginning to supply the domestic requirement; her raisins have largely driven the famous Spanish product from our market, and her prunes are supplanting and supplementing the French article. Her dried and evaporated small fruits, nectarines, apricots, peaches, pears, supply new delicacies to the already broad dietary of our people—delicacies of to-day which become the staple necessaries of to-morrow.

The data gathered by the Bank Commissioners show that her farmers now realize the wealth-producing lines of their industry, and it is apparent that hereafter agricultural development will be along those lines peculiar to the Golden State. We may expect more of figs and fancy fruits, of almonds, walnuts, and other nuts, for which the demand will enlarge with the supply, and less of wheat and other crops grown in competition with States which are not suited for other products. The growing of crops worth $10 per acre upon soil capable of producing crops worth hundreds of dollars is a waste of resources that will impoverish any people.

That the production of wheat in California has reached its limit under present conditions is shown by the recorded production of the last few years. During the five years 1880 to 1884, inclusive, the average annual product of the State was 36,394,200 bushels, while for the five years 1885 to 1889, inclusive, it averaged but 33,083,600, or an absolute decline of over 3,000,000 bushels in the face of an increase in population between 1880 and 1890 of more than a third of a million. In 1880 the production per capita amounted to over 39 bushels, leaving, after a

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liberal allowance for domestic consumption and seed, over 30 bushels per capita to be sold in foreign markets if wanted or to be carried to the accumulation of stocks. In 1890 the production per capita is about 27 bushels; a surplus for outside disposition of only about 18 bushels per head. These figures show that California farmers are realizing the folly of growing wheat for a glutted foreign market upon soil better suited for the production of special products steadily demanded at remunerative prices.

PEANUT PRODUCTION.

The peanut (*Arachis hypogæa*), originally a native of Africa, was first cultivated in this country in the Carolinas. It is now grown in many localities of all the Southern States, and in California, but is a commercial crop only in Virginia, North Carolina, and Tennessee. In a number of counties of these States it is regarded as the money crop, there being a steady cash demand for the product. The nuts have been used for the adulteration of chocolate and considerable quantities are used in the manufacture of oil, but the great demand is for edible purposes. The demand for domestic consumption has steadily increased during recent years, largely outstripping the increase in population and showing a growing taste among our people for the nut. At one time we exported considerable quantities to France, where a large amount of the oil is expressed, but during recent years our domestic market has been more lucrative for growers. The oil is used as an illuminant; in mechanics as a lubricant of very fine quality; and for alimentary purposes is said to be equal to the best olive oil, for which article it is sometimes substituted in commerce.

The crop is one of our minor branches of rural industry of considerable aggregate value, but of such narrow geographical range that no national census, prior to that for 1890, has ever included it in its schedules, and consequently there are no official records of acreage or production. The Cincinnati Price Current, however, has for a number of years compiled an annual statement of production and commercial distribution which may be assumed to fairly represent the status of the industry. Two-thirds of the crop entering into commercial channels is grown in the southeastern counties of Virginia and adjoining districts in North Carolina, and the Norfolk market absorbs the largest proportion of the crop.

This statement of estimated production for a series of years is as follows:

Years.	Virginia.	Tennessee.	North Carolina.	Total.	Years.	Virginia.	Tennessee.	North Carolina.	Total.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*		*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1875 ..	450 000	235, 000	100, 000	785, 000	1887....	3, 000, 000	630, 000	150, 000	3, 780, 000
1880....	1, 500, 000	750, 000	120, 000	2, 370, 000	1888....	1, 800, 000	600, 000	200, 000	2, 600, 000
1885....	1, 800, 000	800, 000	150, 000	2, 750, 000	1889....	1, 000, 000	600, 000	150, 000	2, 350, 000
1886....	1, 800, 000	750, 000	100, 000	2, 650, 000	1890....	2, 500, 000	1, 000, 000	250, 000	3, 750, 000

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The estimates each year are subject to revision after the records of adulteration and consumption are available and the figures for 1890 are therefore not final.

The short crop of 1889, following the medium production of 1888, resulted in a close clearing up of stocks to meet the demands for consumption. Prices responded to the pressure and rose steadily from 4½ cents per pound for first receipts in October, 1889, to 10 cents for the last mill stock in September of this year, the highest price reached since 1883. The crop of 1889 was worth more in the producers' hands than the larger crop of the previous year, the aggregate value being estimated at $2,500,000 against $2,000,000.

EUROPEAN CROP REPORT FOR DECEMBER.

GREAT BRITAIN.

The sudden change from the spring weather of November to cold and snow of midwinter has been a grateful one, as the growth of the young vegetation was becoming abnormal, and the needed check has been given.

The threshings of the autumn grain do not appear to be as large as were expected, and pending the Government report 28 bushels per acre for wheat, 32 for barley, and 36 for oats seem to represent the averages of this year's harvest.

Sir J. B. Lawes, in his annual report upon the Rothamstead experiments which he has carried on for so many years, presents the following table showing the produce of wheat in 1890 on the upper portion of the selected plots of the experimental wheat field, which has now grown the crop for forty-seven years in succession. It also gives, as usual, for comparison, the average produce for the preceding ten years, the previous twenty-eight years, and for thirty-eight years, 1852–'89, inclusive:

	Unmanured, plot 3.	Farm-yard manure, plot 2.	Artificial manures.			Mean.	Mean of plots 3, 2, and 7, 8, 9 (or 16).	As last at 61 pounds per bushel.
			Plot 7.	Plot 8.	Plot 9 or (16).			
Bushels of dressed corn per acre:								
Year 1890	19⅜	50	44½	45⅝	42½	44	37⅜	37½
Average, 10 years, 1880–'89	12½	35⅞	33½	37½	37	36	28⅜	27⅞
Average, 28 years, 1852–'79	13⅜	33⅜	32⅜	36½	36½	35	27½	26½
Average, 38 years, 1852–'89	13	34	32⅞	36⅜	36⅜	35½	27⅝	26⅝
Weight per bushel of dressed corn, pounds:								
Year 1890	59½	61¼	60⅜	60⅛	59⅞	60½	60½	.....
Average, 10 years, 1880–'89	59⅜	61	60⅞	60⅞	60½	60⅜	60⅜	.....
Average, 28 years, 1852–'79	57⅜	60	59⅜	59⅛	58⅜	59	58⅞	.....
Average, 38 years, 1852–'89	58⅛	60½	59½	59⅛	59	59⅜	59½	.....
Total straw, chaff, etc., per acre, cwts.:								
Year 1890	12½	48⅜	42⅞	45⅞	45⅜	44⅞	35½	.....
Average, 10 years, 1880–'89	8⅜	31⅛	31⅜	39⅜	40⅜	37⅜	25⅜	.....
Average, 28 years, 1852–'79	11⅜	32½	33⅛	40½	41⅛	38⅛	27½	.....
Average, 38 years, 1852–'89	10⅞	32	33	40⅛	41⅜	38⅛	27	.....

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FRANCE.

The unseasonably mild weather which has characterized the month came to a timely end a few days ago. Great satisfaction is expressed, although in the north the sowings have not been completed. The general aspect of the fields is excellent.

AUSTRIA-HUNGARY.

A perceptible improvement is noted in the Austro-Hungarian prospects, although there is thought to have been too much humidity for the season of the year. The unfavorable condition of the international money markets and other causes tended to reduce the markets to comparative stagnation until the last week in the month, when there was some rise in the value of wheat and rye for forward delivery.

GERMANY.

After a prolonged season of dull, damp weather, the thermometer has fallen, and a radical change taken place in the temperature. Agricultural work is practically brought to a close, and the autumn sowings leave no ground for unfavorable comment. The grain trade on the whole has been quiet; the bad state of the roads hindering farmers' supplies. Following the resignation of Dr. Von Lucius, the minister of agriculture, there were rumors of a reduction in the grain duties, but nothing is yet definitely known.

The imports into Germany in the nine months ending September 30 are officially given as follows:

	1890.	1889.
	Quarters.	*Quarters.*
Wheat	2, 530, 000	1, 814, 000
Rye	3, 104, 200	3, 638, 800
Oats	3, 295, 000	1, 410, 000
Barley	2, 625, 000	2, 211, 000
Maize	2, 200, 000	982, 000
Flour as wheat	59, 000	55, 000

SPAIN.

From nearly all points the information comes that the autumn sowings were made under unfavorable circumstances owing to lack of humidity, and the late severe weather has greatly aggravated the situation.

ITALY.

There were frequent rains in Italy during November, and the young wheat is germinating well. A higher tendency is noted in the value of wheat and rice.

RUSSIA.

The reports from Odessa as to the sowing of the autumn wheat in the interior state that the general appearance is satisfactory. Winter

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has set in with great severity over the Empire. A cablegram of December 1 gives the grain exports from all Russia for the first ten months of 1890 at 331,000,000 poods, while during the same period last year they reached a total of 375,000,000, and in 1888, 440,000,000. Increasing complaints are heard of the adulteration of grain, but independent of this the cargoes of South Russian and Roumanian wheat of this season arriving in England have not given the satisfaction to millers that the samples promised.—E. J. M.

BELGIAN CROPS IN 1890 AND 1889.

The Bulletin de l'Agriculture, an official publication, furnishes in its sixth number for the current year the following information as to the average yields of the cereals with the total product as calculated on the basis of the areas returned in the census of 1880:

Products.	Yield per hectare.		Total product.			
	1890.	1889.	1890.		1889.	
	Hectoliters.	*Hectoliters.*	*Hectoliters.*	*Bushels.*	*Hectoliters.*	*Bushels.*
Wheat	25	25	6,898,000	19,573,075	6,898,000	19,573,075
Rye	25	23	6,941,000	19,695,088	6,385,000	18,117,438
Spelt	36	36	1,890,000	5,362,875	1,890,000	5,362,875
Maslin	.....	.....	643,000	1,824,513	617,000	1,750,738

The average rates of yield for barley and oats are stated respectively at 36 and 43 hectoliters per hectare for 1890, as compared with 32 and 40 hectoliters per hectare for 1889. Reduced to bushels per acre on the basis of 2.8375 bushels per hectoliter and 2.471 acres per hectare, the figures are respectively 41.3 and 49.4 for 1890 and 36.7 and 45.9 for 1889.

The quality of the cereals is represented as being generally good, and the same is true of most other crops, but in the case of flax the quality is reported only medium and the yield rather small.

The forage crops suffered somewhat from bad weather, and the average yield of hay in 1890 is from 400 to 500 kilograms per hectare (357 to 446 pounds per acre) less than in 1889. Clover, on the contrary, shows a heavy yield.

Potatoes are of good quality and their yield is satisfactory, approximating that of 1889.

TRANSPORTATION RATES.

FREIGHT RATES—RAILROAD COMPANIES.

According to the returns from the several trunk lines, Chicago to New York, for December 1, there have been a number of changes in the rates of freight as compared with those reported November 1. The changes are invariably an increase in the rates, and upon such articles

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as packing-house products, bulk meats, dressed meats in refrigerator cars, corn, other grain, wool, and live hogs and cattle the increase varies from 10 to nearly 100 per cent. To show just what the changes are, the following comparative table is presented:

[In cents per 100 pounds.]

Articles.	To New York from—							
	Chicago.		East St. Louis.		Indianapolis.		Cincinnati.	
	Nov. 1.	Dec. 1.	Nov. 1.	Dec. 1.	Nov. 1.	Dec. 1.	Nov. 1.	Dec. 1.
Packing-house products, C. L	23	30	26½	35	21½	28	20	26
Bulk meats, C. L	28	35	32½	40½	26	32½	24½	20½
Dressed meats in refrigerator cars, C. L	30	45	35	50	.....	.....	.....	30
Corn, C. L	20	22½	23	26	18½	21	17½	19½
Other grain, C. L	22½	25	26	29	21	23	19½	21½
Wool, in bales or sacks, C. L	34½	65	40	75½	34½	60½	34½	56½
Cattle, C. L	18	26	23	31	18	24	18	22½
Hogs, C. L	23	30	26½	35	21½	28	20	26

To find rates to Philadelphia and Baltimore, deduct 2 and 3 cents respectively from New York rates.

The following transportation companies report no important changes in their rates since last published: Pennsylvania Railroad Company (west bound); New York, Lake Erie and Western Railroad (west bound); Delaware, Lackawanna and Western Railroad (west bound); Michigan Central Railroad; Northern Pacific Railroad; St. Paul and Duluth Railroad; Louisville and Nashville Railroad; Newport News and Mississippi Valley Company; Merchants' and Miners' Transportation Company; Old Dominion Steamship Company; Norwich and New York Transportation Company; Yazoo and Tallahatchie Transportation Company; Portland Steam Packet Company; St. Louis and Mississippi Valley Transportation Company; Windsor Line.

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TRUNK-LINE RATES.

[In effect December 1, 1890; in cents per 100 pounds.]

Articles.	To New York from—							To Boston from—			
	East St. Louis.	Chicago.	Indianapolis.	Cincinnati.	Detroit and Toledo.	Cleveland.	Erie.	East St. Louis.	Chicago.	Indianapolis.	Cincinnati.
Agricultural implements:											
O. R., N. O. S., C. L	35	30	28	26	23½	21½	18	40	35	33	31
N. O. S., K. D. flat, in bundles, L. C. L	87	75	69½	65	58½	53	45	97	85	79½	75
Apples, green, in barrels, O. R, P. P.:											
C. L	35	30	28	26	23½	21½	18	40	35	33	31
L. C. L	58	50	46½	43½	39	35½	30	63	55	51½	48½
Bacon, packed:											
C. L	35	30	28	26	23½	21½	18	40	35	33	31
L. C. L	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Beans, dried, N. O. S., in bags or barrels:											
C. L	35	30	28	26	23½	21½	18	40	35	33	31
L. C. L	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Beef:											
Dressed, refrigerator cars, C. L	50	45	....	39	35	32	27	....	45	....	....
Pickled, in barrels or tierces, C. L	35	30	28	26	23½	21½	18	40	35	33	31
Bulk meats, smoked or salted, C. L	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Butter, in wood	75½	65	60½	56½	50½	46	39	81½	71	66½	62½
Cheese, in boxes or casks	58	50	46½	43½	39	35½	30	63	55	51½	48½
Corn, C. L. (minimum weight 24,000 pounds)	26	22½	21	19½	17½	16	13½	31	27½	26	24½
Flour:											
C. L., 125 barrels and over	29	25	23	21½	19½	17½	15	34	30	28	26½
Less than 125 barrels	35	30	28	26	23½	21½	18	40	35	33	31
Fruit:											
Green, N. O. S., P. P., released, C. L	75½	65	60½	56½	50½	46	39	81½	71	66½	62½
Dried, N. O. S., in barrels or casks, C. L	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Dried, N. O. S., in barrels or casks, L. C. L	58	50	46½	43½	39	35½	30	63	55	51½	48½
Grain, in bulk:											
Except corn, C. L	29	25	23	21½	19½	17½	15	34	30	28	26½
Less than 24,000 and more than 15,000 pounds	35	30	28	26	23½	21½	18	40	35	33	31
Hams, packed:											
C. L	35	30	28	26	23½	21½	18	40	35	33	31
L. C. L	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Hides:											
Dry, loose, or in packages, C. L. (minimum weight 20,000 pounds)	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Dry, pressed, in bales, L. C. L	87	75	69½	65	58½	53	45	97	85	79½	75
Green, in bundles, C. L	35	30	28	26	23½	21½	18	40	35	33	31
Hogs, dressed, refrigerator cars, C. L	50	45	....	39	35	32	27	....	45	....	....
Hops, in bales, L. C. L	75½	65	60½	56½	50½	46	39	81½	71	66½	62½
Lard:											
C. L	35	30	28	26	23½	21½	18	40	35	33	31
In barrels or boxes, L. C. L	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Lumber, N. O. S.:											
C. L	29	25	23	21½	19½	17½	15	34	30	28	26½
L. C. L	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Pork, pickled, in barrels:											
C. L	35	30	28	26	23½	21½	18	40	35	33	31
L. C. L	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Potatoes, O. R., P. P.:											
C. L	35	30	28	26	23½	21½	18	40	35	33	31
L. C. L	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Salt:											
C. L	29	25	23	21½	19½	17½	15	34	30	28	26½
In boxes or sacks, L. C. L	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Sheep, dressed, refrigerator cars, C. L	50	45	....	39	35	32	27	....	45	....	....
Tobacco, unmanufactured, in hogsheads or cases	40½	35	32½	30½	27½	25	21	45½	40	37½	35½
Wool, in bales or sacks:											
C. L. (minimum weight 10,000 pounds)	75½	65	60½	56½	50½	46	39	81½	71	66½	62½
L. C. L	87	75	69½	65	58½	53	45	97	85	79½	75
Cattle, C. L	31	26	24	22½	20½	18½	15½	....	26	....	....
Sheep, C. L	35	30	28	26	23½	21½	18	....	30	....	....
Hogs, C. L	35	30	28	26	23½	21½	18	....	30	....	....
Horses and mules, C. L	65	60	56	52	47	42½	36	....	60	....	....

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified. P. P.—Prepaid. K. D.—Knocked down.

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GRAND TRUNK RAILWAY.

[Rates in effect December 1, 1890, in cents per 100 pounds.]

Articles.	Boston and Portland to—		Boston and Portland from—	
	Chicago.	Detroit.	Chicago.	Detroit.
Agricultural implements:				
O. R., N. O. S., C. L.	26	20	35	28½
N. O. S., K. D. flat, in bundles, L. C. L.	65	51	85	68½
Apples, green, in barrels, O. P., P. P.:				
C. L.	26	20	35	28½
L. C. L.	44	35	55	44
Bacon, packed:				
C. L.	26	20	35	28½
L. C. L.	31	24	40	32½
Beans, dried, N. O. S., in bags or barrels:				
C. L.	26	20	35	28½
L. C. L.	31	24	40	32½
Beef				
Dressed, refrigerator cars, C. L.	.....	.....	45	.....
In barrels or tierces, C. L.	26	20	35	28½
Butter, in wood, any quantity	57	45	71	56½
Cheese, in boxes or casks, any quantity	44	35	55	44
Fertilizers:				
N. O. S., C. L.	22	18	30	24½
In bags or barrels, L. C. L.	31	24	40	32½
Flour:				
C. L., 125 barrels and over	22	18	30	24½
Less than 125 barrels	26	20	35	28½
Fruit:				
Green, N. O. S., P. P., released, C. L.	57	45	71	56½
Dried, N. O. S., in bags, barrels, or casks, C. L.	31	24	40	32½
Dried, N. O. S., in bags, barrels, or casks, L. C. L.	44	35	55	44
Grain, in bulk:				
Except corn, C. L. (minimum weight 24,000 pounds)	22	18	30	23½
Less than 24,000 and more than 15,000 pounds	26	20	35	28½
Corn, C. L.	22	18	27½	22½
Hams, packed:				
C. L.	26	20	35	28½
L. C. L.	31	24	40	32½
Hides:				
Dry, loose, or in packages, C. L. (minimum weight 20,000 pounds)	31	24	40	32½
Dry, pressed in bales, L. C. L.	65	51	85	68½
Green, in bundles, C. L.	26	20	35	28½
Hogs, dressed, refrigerator cars, C. L.	.....	.....	45	.....
Hops, in bales, L. C. L.	57	45	71	56½
Lard:				
C. L.	26	20	35	28½
In barrels or boxes, L. C. L.	31	24	40	32½
Lumber, N. O. S.:				
C. L.	22	18	30	24½
L. C. L.	31	24	40	32½
Pork, pickled, in barrels:				
C. L.	26	20	35	28½
L. C. L.	31	24	40	32½
Potatoes, O. R., P. P.:				
C. L.	26	20	35	28½
L. C. L.	31	24	40	32½
Salt:				
C. L.	22	18	30	24½
In boxes or bags, L. C. L.	31	24	40	32½
Sheep, dressed, refrigerator cars, C. L.	.....	.....	45	.....
Tobacco, unmanufactured, in hogsheads or cases, any quantity	31	24	40	32½
Wool, in bales or sacks:				
C. L. (minimum weight 10,000 pounds)	57	45	71	56½
L. C. L.	65	51	85	68½
Cattle, C. L.	.....	.....	26	20½
Sheep, C. L.	.....	.....	30	23½
Hogs, C. L.	.....	.....	30	23½
Horses and mules, C. L.	.....	.....	60	47

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified. K. D.—Knocked down. P. P.—Prepaid.

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DELAWARE, LACKAWANNA AND WESTERN RAILROAD.

[Rates in effect December 1, 1890, in cents per 100 pounds.]

Articles.	Between New York and—		
	Oswego, Elmira, and Binghamton, N. Y.	Scranton and Pittston, Pa.	Buffalo, N. Y.
Agricultural implements:			
O. R., N. O. S., C. L	15	15	16
N. O. S., K. D., flat, in bundles, L. C. L	35	35	39
Apples, O. R., P. P.:			
C. L	15	15	16
L. C. L	25	23	28
Bacon, packed:			
C. L	15	15	16
L. C. L	18	17	19
Beans, Dried, N. O. S., in bags or barrels:			
C. L	15	15	16
L. C. L	18	17	19
Beef:			
Dressed, refrigerator cars, L. C. L	35	35	39
In barrels or tierces, C. L	15	15	16
Butter, in wood, C. L	25	23	28
Cheese, in boxes or casks, C. L	25	23	28
Corn, C. L. (minimum weight, 24,000 pounds)	12	12	12
Fertilizers, N. O. S.:			
C. L	13	12	13
In bags or barrels, L. C. L	18	17	19
Flour:			
C. L., 125 barrels and over	13	12	13
Less than 125 barrels	15	15	16
Fruit:			
Green, N. O. S., P. P., released, C. L	30	30	33
Dried, N. O. S., in barrels or casks, C. L	18	17	19
Dried, N. O. S., in barrels or casks, L. C. L	25	23	28
Grain:			
Except corn, in bulk, C. L. (minimum weight 24,000 pounds)	13	12	13
In bulk, less than 24,000 and more than 15,000 pounds	15	15	16
Hams, packed:			
C. L	15	15	16
L. C. L	18	17	19
Hides:			
Dry, loose, or in packages, C. L. (minimum weight 20,000 pounds)	18	17	19
Green, in bundles, C. L	15	15	16
Hogs, dressed, refrigerator cars, C. L. (minimum weight 20,000 pounds)	27½	27½	27½
Hops, in bales, L. C. L	30	30	33
Lard:			
In tierces, C. L	15	15	16
In barrels or boxes, L. C. L	18	17	19
Lumber, N. O. S.:			
C. L	13	12	13
L. C. L	18	17	19
Pork, pickled, in barrels:			
C. L	15	15	16
340 pounds per barrel L. C. L	18	17	19
Potatoes, O. R., P. P.:			
C. L	15	15	16
L. C. L	18	17	19
Salt:			
C. L	13	12	13
Table, in boxes or bags, L. C. L	18	17	19
Sheep, dressed, refrigerator cars, C. L	27½	27½	27½
Tobacco, unmanufactured, in hogsheads or cases	18	17	19
Wool, in bales or sacks:			
C. L. (minimum weight 10,000 pounds)	30	30	33
L. C. L	35	35	39
Cattle, C. L	15½	15½	15½
Sheep, C. L	17½	17½	17½
Hogs, live, C. L	17½	17½	17½
Horses and mules, C. L	30	30	30

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified. K. D.—Knocked down. P. P.—Prepaid.

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ATCHISON, TOPEKA AND SANTA FÉ RAILROAD.

[Rates in effect December 1, 1890.]

Articles.	From Chicago to—								
	Kansas City, Atchison, Leavenworth, or St. Joseph.	Denver, Colorado Springs, Pueblo, and Trinidad, Colo.	Wichita and Hutchinson, Kans.	Topeka, Kans.	Emporia, Kans.	Winfield, Kans.	Lawrence, Kans.	Osage City, Kans.	Coffeyville, Kans.
Agricultural implements, except hand, C. L .....per 100 lbs..	$0.28	$1.13	$0.58	$0.40	$0.50	$0.60	$0.37	$0.42	$0.42½
Apples:									
140 barrels, or more ....do....	.21	.96	.54½	.33	.45	.56½	.28	.38	.44½
In barrels, L. C. L .... do....	.42	1.52	.88	.61	.76½	.91	.57	.67	.76½
Bacon, in barrels, boxes, or casks:									
C. L .....per 100 lbs..	.18	.93	.54½	.33	.45	.56½	.28	.38	.44½
L. C. L .....do....	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Beans:									
In sacks, C. L .....do....	.21	.96	.54½	.33	.45	.56½	.28	.38	.44½
Dried, in sacks, L. C. L .do ...	.42	1.52	.88	.61	.76½	.91	.57	.67	.76½
Dried, in barrels, L. C. L .do....	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Beef, pickled:									
C. L .....do....	.18	.96	.54½	.33	.45	.56½	.28	.38	.44½
L. C. L .....do....	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Butter, in wood or tin, O. R.:									
C. L .....do....	.42	1.52	.88	.61	.76½	.91	.57	.67	.76½
L. C. L .....do....	.58	1.88	1.11	.82	.98	1.14	.78	.86	.97½
Cheese, in boxes, tubs, or casks:									
C. L .....per 100 lbs..	.42	1.52	.88	.61	.76½	.91	.57	.67	.76½
L. C. L .....do....	.58	1.88	1.11	.82	.98	1.14	.78	.86	.97½
Cotton, in bales, L. C. L..... do....	.70	2.30	1.30	.99	1.15½	1.33	.95	1.00	1.12
Fertilizers, N. O. S., in packages:									
C. L .....per 100 lbs..	.15	.55	.26	.21	.22	.27	.19½	.21	.23
L. C. L .....do....	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Flour, N. O. S., in barrels:									
C. L .....do....	.20	.55	.31	.29	.30	.32	.29	.29	.29
L. C. L .....do....	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Grain, other than wheat:									
C. L .....do....	.17	.50	.26	.24	.25	.27	.24	.24	.27
In bags only, L. C. L... do....	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Hams:									
C. L .....do....	.18	.96	.54½	.33	.45	.56½	.28	.38	.44½
In boxes, barrels, or crates, L. C. L .....per 100 lbs..	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Hogs, dressed, O. R.:									
C. L .....do....	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
L. C. L .....do....	.58	1.88	1.11	.82	.98	1.14	.78	.86	.97½
Lard, in barrels or tierces:									
C. L .....do....	.18	.96	.54½	.33	.45	.56½	.28	.38	.44½
L. C. L .....do....	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Lumber:									
Hard, C. L ....do....	.16	.39	.30	.20	.26½	.31	.20	.23	.24
Soft, C. L .....do....	.15	.39	.30	.20	.26½	.31	.20	.23	.24
Pork pickled:									
C. L .....do....	.18	.96	.54½	.33	.45	.56½	.28	.38	.44½
L. C. L .....do....	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Potatoes, N. O. S., in sacks or barrels, O. R:									
C. L .... per 100 lbs..	.18	.68	.36½	.26	.30	.37½	.24	.27½	.29½
L. C. L .....do....	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Salt:									
C. L .....do....	.15	.68	.26	.18	.19	.28	.18	.18	.22
In sacks, boxes, or barrels. L. C. L ..... per 100 lbs..	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Tobacco, unmanufactured, in hogsheads, barrels, or boxes, C. L, per 100 lbs	.28	1.18	.66	.43	.55	.68½	.41	.49	.54½
Wheat, C. L..... ....per 100 lbs..	.20	.57½	.31	.29	.30	.32	.29	.29	.29
Wool:									
Compressed bales .....do....	.42	1.52	.88	.61	.76½	.91	.57	.67	.76½
In sacks .....do....	.58	1.88	1.11	.82	.98	1.14	.78	.86	.97½
Cattle, C. L.....do....	.22	*95.00	.36	.28	.32	.36½	.26	.30	.32
Hogs, single deck C. L.....do....	.22	†95.00	.45	.34	.39	.46	.30	.37	.40
Sheep, single deck C. L.....do....	.22	†57.00	.41½	.35	.37½	.43	.35	.35½	.38½
Horses, C. L .....do....	*60.00	*105.00	.39 6/10	.30 8/10	.35 5/10	.40 13/100	.28 8/10	.33	.35 5/10

*Per standard car. C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified.

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CHICAGO, BURLINGTON AND QUINCY RAILROAD.

[Rates in effect December 1, 1890.]

Articles.	To St. Louis from—		To Chicago from—	
	Atchison, Kansas City, St. Joseph.	Omaha, Council Bluffs.	Atchison, Kansas City, St. Joseph.	Omaha, Council Bluffs.
Apples, in barrels or boxes, O. R., P. P., or guaranteed:				
C. L ..... per 100 lbs..	$0.20	$0.20	$0.25	$0.25
L. C. L ..... do....	.30	.30	.40	.40
Bacon and hams:				
Packed, C. L ..... do....	.13	.13	.18	.18
In barrels, boxes, or crates, L. C. L ..... do....	.25	.25	.30	.30
Beef:				
Dried or pickled, in barrels or tierces, C. L ..... do....	.13	.13	.18	.18
Dried, in boxes, barrels, or crates, L. C. L ..... do....	.25	.25	.30	.30
Beef, dressed:				
Common cars, C. L ..... do....	.18½	.18½	.23½	.23½
Refrigerator cars, C. L ..... do....	.18½	.18½	.23½	.23½
Butter, in wood or tin, O. R.:				
C. L ..... do....	.30	.30	.40	.40
L. C. L ..... do....	.40	.40	.60	.60
Cheese, in boxes, tubs, or casks:				
C. L ..... do....	.30	.30	.40	.40
L. C. L ..... do....	.40	.40	.60	.60
Cotton, pressed in bales, any quantity ..... do....	.55	.55	.75	.75
Fertilizers, except guano, N. O. S., in packages:				
C. L ..... do....	.11	.11	.16	.16
L. C. L ..... do....	.25	.25	.30	.30
Flour:				
C. L ..... do....	.15	.15	.20	.20
In barrels (200 pounds per barrel), L. C. L ..... do....	.25	.25	.30	.30
Hides:				
Dry, in bundles, L. C. L ..... do....	.55	.55	.75	.75
Dry, C. L. (minimum weight, 10,000 pounds) ..... do....	.40	.40	.60	.60
Green, in bundles, C. L ..... do....	.13	.13	.18	.18
Hogs, dressed:				
Common cars, C. L ..... do....	.18½	.18½	.23½	.23½
Refrigerator cars, C. L ..... do....	.18½	.18½	.23½	.23½
Lard, in barrels or tierces:				
C. L ..... do....	.13	.13	.18	.18
L. C. L ..... do....	.25	.25	.30	.30
Lumber:				
Soft, C. L ..... do....	.10½	.10½	.15	.15
Hard, C. L ..... do....	.11½	.11½	.16	.16
Except woods of value, L. C. L ..... do....	.25	.25	.30	.30
Pork, packed:				
C. L ..... do....	.13	.13	.18	.18
L. C. L ..... do....	.25	.25	.30	.30
Potatoes:				
N. O. S., in sacks or barrels, O. R., C. L ..... do....	.15	.15	.20	.20
N. O. S., in sacks or barrels, O. R., L. C. L ..... do....	.25	.25	.30	.30
Sweet, O. R., L. C. L ..... do....	.40	.40	.60	.60
Tobacco, unmanufactured, in hogsheads or cases, L. C. L ..... do....	.25	.25	30	.30
Wool:				
Compressed in bales, L. C. L ..... do....	.30	.30	.40	.40
In sacks, L. C. L ..... do....	.40	.40	.60	.60
Grain:				
Wheat, rye, and barley, C. L ..... do....	.15	.15	.20	.20
Corn and oats, C. L ..... do....	.12	.12	.17	.17
Seeds:				
Flax, hemp, or millet, C. L ..... do....	.17½	.20	.22½	.25
Hungarian or sorghum, C. L ..... do....	.17½	.20	.22½	.25
Cattle, C. L ..... do....	.13½	.13½	.22	.23
Sheep, S. D. or D. D., C. L ..... do....	.17½	.17½	.25	.25
Hogs, S. D. or D. D., C. L ..... do....	.15	.17½	.25	.25
Horses, C. L ..... per standard car..	40.00	40.00	60.00	60.00

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. P. P—Prepaid. N. O. S.—Not otherwise specified. S. D.—Single-deck. D. D.—Double-deck.

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CHICAGO AND NORTHWESTERN RAILWAY.

[Rates in effect December 1, 1890, in cents, per 100 pounds.]

Articles.	To Sioux City from—		From Sioux City to—	
	Chicago, Milwaukee.	Points on the east bank of the Mississippi River, East Clinton, Ill., to East Dubuque, Ill., both inclusive.	Chicago, Milwaukee.	Points on the east bank of the Mississippi River, East Clinton, Ill., to East Dubuque, Ill., both inclusive.
Agricultural implements:				
Except hand, O. R. (minimum weight, 20,000 pounds), C. L.	28	20½	30	22½
N. O. S., K. D., flat, in bundles, L. C. L.	70	50	75	55
Apples, in barrels or boxes, O. R., P. P., or guaranteed:				
C. L.	21	16	25	20
L. C. L.	42	32	40	30
Bacon, hams, and shoulders, packed:				
C. L.	18	13	18	13
L. C. L.	28	23	30	25
Beans and peas, dried, in barrels or in bulk, C. L.	21	16	25	20
Beef, pickled, C. L.	18	13	18	13
Butter, in wood or tin, O. R.:				
C. L.	42	32	40	30
L. C. L.	58	38	60	40
Cheese, in boxes, tubs, or casks:				
C. L.	42	32	40	30
L. C. L.	58	38	60	40
Fertilizers, N. O. S., in packages, C. L.	15	10	16	11
Flour:				
C. L.	25	20	22	18
N. O. S., in barrels, L. C. L.	28	23	30	25
Fruit:				
Dried, in cans, boxes, barrels, or sacks, released, C. L.	28	23	30	25
Dried, in cans, boxes, barrels, or sacks, released, L. C. L.	42	32	40	30
Green, N. O. S., O. R., P. P., or guaranteed, C. L.	42	32	40	30
Green, N. O. S., O. R., P. P., or guaranteed, L. C. L.	70	50	75	55
Hides:				
And sheep pelts, dry (minimum weight 10,000 pounds), C. L.	58	38	60	40
Dry, in bundles, L. C. L.	70	50	75	55
And sheep pelts, green, C. L.	18	13	18	13
Hops: L. C. L.	58	38	60	40
Lard, in crocks, buckets, boxes, barrels, or casks, C. L.	18	13	18	13
Lumber:				
Soft, C. L.	*19			
Except woods of value, L. C. L.	28	23	30	25
Meats, fresh, including dressed hogs, C. L.	23½	18½	23½	18½
Oil cake and oil-cake meal, C. L.	18	13	20	15
Pork, packed, C. L.	18	13	18	13
Potatoes, N. O. S., in sacks or barrels, O. R., C. L.	18	13	20	15
Salt:				
C. L.	15	11⅜		
In sacks, boxes, or barrels, L. C. L.	28	23	30	25
Tobacco, unmanufactured, in hogsheads, barrels, or boxes, L. C. L.	28	23	30	25
Wool:				
In sacks, L. C. L.	58	38	60	40
Compressed, in bales, L. C. L.	42	32	40	30
Flax, millet and hemp seed, C. L.	27	20	27	20
Grain:				
Wheat, C. L.	25	20	22	18
Rye and barley, C. L.	22	15	22	15
Corn and oats, C. L.	22	15	19	15
Horses and mules, in standard cars, C. L.	34 7/10	20 6/10	34 7/10	20 6/10
Cattle and calves, C. L.	31	18½	25	17½
Hogs, in double or single-deck cars, C. L.	35	20	30	
Sheep, in double or single-deck cars, C. L.	35	20	30	22½

* From Chicago only.

C. L.—Car-load. L. C. L.—Less than car-load. N. O. S.—Not otherwise specified. K. D.—Knocked down. O. R.—Owner's risk. P. P.—Prepaid.

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OCEAN STEAMSHIP COMPANIES.

[Rates in effect December 1, 1890.]

Articles.	White Star Line, New York to Liverpool.	Inman Line, New York to Liverpool.	Guion Line, New York to Liverpool.
Wheat ..... per bushel..	$0.06	$0.06	$0.06
Corn ..... do....	.06	.06	.06
Flour ..... per barrel..	.48	.48	.48
Flour (in sacks) ..... per 2,240 pounds..	2.40	3.00	.....
Bacon ..... do....	4.80	4.80	4.80
Lard ..... do....	4.80	4.20	4.20
Cheese ..... do....	6.00	6.00	6.00
Tallow ..... do....	3.60	4.20	4.20
Beef ..... per tierce..	.72	.72	.84
Pork ..... per barrel..	.48	.48	.60
Oil cake ..... per 2,240 pounds..	2.40	2.40	.....
Cotton ..... per pound..	.00½	.00½	.00½
Hops ..... do....	.00½	.00½	.00½
Tobacco ..... per hogshead..	4.80	6.00	.....
Rosin ..... per 280 pounds..	.....	.48	.....
Lard (in small packages) ..... per 2,240 pounds..	7.20	6.60	6.00
Tobacco (in cases) ..... per 40 cubic feet..	3.60	3.60	4.80
Apples ..... per barrel..	.48	.48	.48
Hams ..... per 2,240 pounds..	4.80	4.80	4.80
Butter ..... do....	7.20	7.20	7.20
Measurement per ton (40 cubic feet)	4.80	3.60 to 4.80	3.00 to 4.80
Primage ..... per cent..	.....	5	5

Articles.	North German Lloyd Steamship Company, New York to Bremen.	General Transatlantic Company, New York to Havre.
Wheat ..... per 100 pounds..	$0.12	*$0.10
Corn ..... do....	.12	*.10
Flour ..... per barrel..	.70	1.00
Flour (in sacks) ..... per 100 pounds..	.20	.25
Bacon ..... do....	.24	.....
Lard ..... do....	.24	.30
Cheese ..... do....	.36	.40
Tallow ..... do....	.24	.25
Beef ..... per tierce..	1.25	1.25
Pork ..... per barrel..	.96	1.00
Oil cake ..... per 100 pounds..	.18	.25
Cotton ..... per pound..	†.00⅜	.00⅜
Hops ..... do....	†.00⅜	.....
Tobacco ..... per hogshead..	6.00	7.00
Rosin ..... per 280 pounds..	.70	.....
Lard (in small packages) ..... per 100 pounds..	.36	.....
Tobacco (in cases) ..... per case..	1.50	.....
Apples ..... per barrel..	1.00	1.00
Hams ..... per 100 pounds..	.25	.40
Butter ..... do....	.60	.40
Measurement per ton (40 cubic feet)	4.80 to 10.00	10.00
Primage ..... per cent..	.....	5

*Per bushel. †And 5 per cent. primage.

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MONTHLY STATEMENT OF CANAL AND LAKE RATES.

[For November, 1890.]

Date.	Canal rates, Buffalo to New York.					Lake rates, Chicago to Buffalo.		
	Oats per bushel.	Corn and rye per bushel.	Wheat per bushel.	Lumber per 1,000 feet.		Oats per bushel.	Corn per bushel.	Wheat per bushel.
				To Albany.	To New York.			
	Cents.	*Cents.*	*Cents.*			*Cents.*	*Cents.*	*Cents.*
Nov. 1	2¾	3¾	4½	$1.75	$2.25	1½	1⅝	1¾
2	2¾	3¾	4½	1.75	2.25	1½	1⅝	1¾
3	2¾	3¾	4½	1.75	2.25	1½	1⅝	1¾
4	2¾	3¾	4½	2.00	2.25	1½	1⅝	1¾
5	2¾	3¾	4½	2.00	2.25	1½	1⅝	1¾
6	2¾	3¾	4½	2.00	2.25	1½	1⅝	1¾
7	2¾	3¾	4½	2.00	2.25	1½	1⅝	1¾
8	2¾	3⅝	4½	2.00	2.25	1⅝	1¾	2
9	2¾	3⅝	4½	2.00	2.25	1⅝	1¾	2
10	2¾	3⅝	4½	2.00	2.25	1⅝	1¾	2
11	2¾	3⅝	4½	2.00	2.25	1⅝	1¾	2
12	2¾	3⅝	4½	2.00	2.25	1⅝	1¾	2
13	2½	3	3⅞	2.00	2.25	1⅝	1¾	2
14	2½	3	3⅞	2.00	2.25	1⅝	1¾	2
15	2½	3	3⅞	2.00	2.25	1⅝	1¾	2
16	2½	3	3⅞	2.00	2.25	1⅝	1¾	2
17	2½	3	3⅞	2.00	2.25	1⅝	1¾	2
18	2½	3	3⅞	2.00	2.25	1⅝	1¾	2
19	2½	3	3⅞	2.00	2.25	1⅝	1¾	2
20	2½	3	3⅞	2.00	2.25	1¾	1⅞	1¾
21	2	2⅞	3	2.00	2.25	1¾	1⅞	1¾
22	2	2⅞	3	2.00	2.25	1¾	1⅞	1¾
23						3	3¼	3¼
24						3	3¼	3¼
25						3	3¼	3¼
26						3	3¼	3¼
27						3	3¼	3¼
28						3	3¼	3¼
29						3	3¼	3¼
30						3	3¼	3¼

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